QUALITY OF LIFE ASSESMENT IN PATIENTS

WITH OSTOMY

A DISSERTATION SUBMITTED TO

THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY

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CHENNAI

APRIL 2016

CERTIFICATE

This is to certify that the dissertation titled "**QUALITY OF LIFE ASSESSMENT IN OSTOMY PATIENTS "** is the bonafide work done by **DR.R.SIVAKUMAR** Post Graduate student (2013–2015) in the Department of General Surgery, Government Stanley Medical College and Hospital, Chennai under my direct guidance and supervision, in partial fulfillment of the regulations of The Tamilnadu Dr. M.G.R. Medical University, Chennai for M.S., Degree (General Surgery) Branch - I, Examination to be held in April 2016.

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DECLARATION

I, **DR.SIVAKUMAR .R** solemnly declare that this dissertation titled "**QUALITY OF LIFE ASSESMENT IN OSTOMY PATIENTS ”** is a bonafide work done by me in the Department of General Surgery, Government Stanley Medical College and Hospital, Chennai under the guidance and supervision of my unit chief. **Prof. K.KUBERAN,Bsc, M.S Professor of Surgery.**

This dissertation is submitted to The Tamilnadu Dr. M.G.R. Medical University, Chennai in partial fulfillment of the university regulations for the award of M.S., Degree (General Surgery) Branch - I, Examination to be held in April 2016.

Place: Chennai.

Date: September 2016 DR.SIVAKUMAR .R

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TABLE OF CONTENTS

INTRODUCTION:

An ostomy is an opening of the intestine onto the abdominal wall, created surgically or appearing spontaneously after trauma. A colostomy is an opening of the colon to the skin of the abdominal wall. An ileostomy involves opening the lumen of the ileum on the abdominal skin.

Intestinal ostomy is surgery to treat some conditions, like acute diverticulitis, rectal cancer, trauma, or inflammatory bowel disease. This ostomy may be temporary or permanent, and creates many challenges in terms of quality of life and functioning. In colostomy and ileostomy procedure , normal bowel function is affected, and waste is passed through the abdominal wall through an opening called a stoma into an appliance which has to be emptied periodically.

Among various causes for this surgery, the most common cause is colon cancer and inflammatory bowel disease.Though every effort is made to preserve intestinal and tissue integrity, a large number of patients undergo ostomy surgery each year. The main intention of ostomy is to treat and alleviate patients' pain and discomfort, but in many cases ostomy leads to significant distress and suffering for patients, and causes severe stress as a result of skin irritation , pouch leakage ,

offensive odor , reduction in pleasurable activities , and depression/anxiety . In those circumstances, it is good to assess quality of life in relation to the outcomes of various therapeutic procedures along with their final impact on patients' lives. Making good decisions to control disease complications, treatment, and improving quality of life is a very important goal in treating and caring for patients with cancer. After surgery, many cancer patients with a stoma experience more stress and a variety of physical problems causing worry and shame. The appearance of stoma immediately after surgery,make the patient to feel unpleasant to look at for the first time. This emotional distress, along with physical problems and pain, isolation from others, and fear of death, will reduce quality of life in ostomy patients.

Nowadays every measures taken to enhance quality of life in cancer patients as one of the important aims of treatment in oncology have encouraged health care providers to undertake more research to identify different dimensions of quality of life and effective ways to improve these. Nurses are having important role in the health care team and have a significant role in caring for patients with cancer, particularly in identifying the needs of patients and their families, decreasing the complications of the disease, and improving quality of life. This study

aimed to describe quality of life and its dimensions in patients with ostomy who were referred to our institution.

AIMS AND OBJECTIVES :

To assess the quality of life of patients who underwent ostomy for various indications with help of self designed questionnaire.

REVIEW OF LITERATURE

HISTORY:

- The first recorded case of creation of an ileostomy is credited to **Baum** in 1879 for relieving an obstruction secondary to cancer of the ascending colon
- Ileostomy, as we know it today, has been around only for past 50 years**. Dr. Bryan N. Brooke** described it in 1952 when he inverted the end of the ileum before maturing the stoma in the operating room, and it has thus come to bear his name.
- In 1953 Turnbull advised a similar technique whereby the seromuscular layer of the distal half of the exteriorized small bowel was removed and the mucosal tube was everted over the proximal half, thereby covering the exposed serosa.[.

DEVELOPMENT:

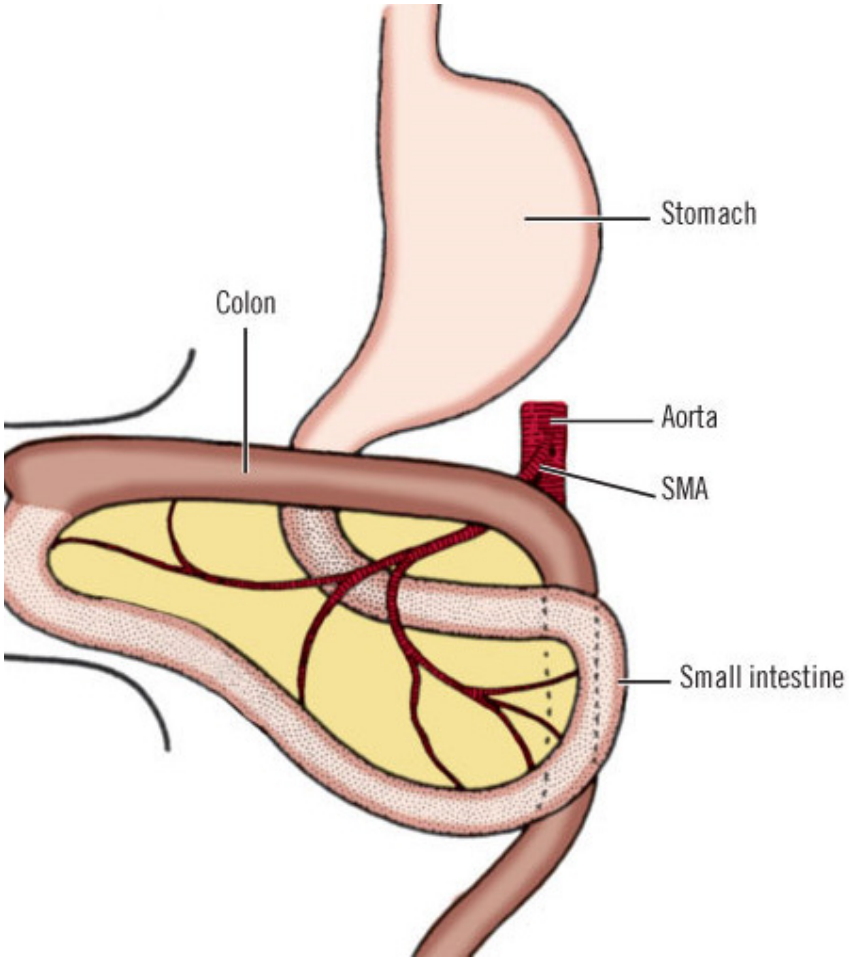
The distal foregut and the proximal midgut are responsible for the genesis of the three parts of the small bowel (duodenum, jejunum, and ileum). The approximate junction of the distal foregut and proximal midgut lies just distal to the ampulla of Vater in the adult. The demarcation of the small bowel into three parts takes place by the start of the third week of embryonic life.

The position of the duodenum posterior to the superior mesenteric artery is the result of the normal development and rotation of the embryonic gut. According to O'Rahilly and Müller, duodenal rotation is unlikely, and the extended peritoneal cavity is responsible for the duodenal mesenteric attachment. The same authors believe that the duodenum's largely retroperitoneal position is the result of an increase in mesenchyme around the duodenum.

Early in the second month of gestation, the intestines, which elongate faster than the abdominal cavity expands, push a loop out into the umbilical cord . This is the "midgut" of the embryologist, not the "midgut" of the surgeon. The herniated segment extends from approximately the distal one-third of the duodenum through the proximal

one-third of the transverse colon. It is supplied by branches of the superior mesenteric artery. The axis of this herniation is the superior mesenteric artery. This artery, together with the celiac axis and the inferior mesenteric artery, is a remnant of the arterial side of the primitive vitelline circulation to the yolk sac. Originally paired and segmentally arranged, the pairs of arteries fuse, and their number is reduced to three by the sixth week of development. At this stage, the superior mesenteric artery continues past the intestine to supply the vitelline stalk, which occasionally persists as Meckel's diverticulum.

Rotation of the intestinal loop counterclockwise through 90° brings the future duodenum and proximal small intestine to the right of the future colon. The axis of this rotation is the superior mesenteric artery. The intestines continue to elongate in the umbilical cord. In the tenth week, they rather suddenly return to the abdomen. The cranial limb of the intestinal loop returns first, so that the duodenum passes behind the superior mesenteric artery. The caudal limb, which will form the distal ileum and the entire colon, returns later, bringing the transverse colon in front of the artery and the duodenum by a further 180° counterclockwise rotation.



Fig(1)

Stage 1: Herniation

The midportion of the growing intestine buckles ventrally and protrudes into the coelom of the body stalk in the fifth week . The apex of the protrusion is marked by the yolk stalk. Its axis is marked by the superior mesenteric artery, which represents part of the primitive blood supply to the yolk sac. This loop of intestine undergoes a counterclockwise twist

of 90°, so that the "prearterial" (cranial) limb lies to the right of the postarterial (caudal) limb . The caudal limb remains nearly straight, while the cranial limb grows rapidly and is thrown into coils.

Stage 2: Return (Reduction)

The intestines return to the abdomen rather suddenly during the tenth week. The cranial limb enters first, to the right of the superior mesenteric artery . The caudal loop enters later: the left colon first; the transverse colon in front of the superior mesenteric artery; and lastly, the cecum with the terminal ileum.

Stage 3: Fixation

From the fourth month until well after birth, the growth of the colon is completed. The mesenteries of the ascending and descending portions become obliterated by fusion with the peritoneum of the body wall. The transverse mesocolon fuses with the posterior leaf of the omental bursa.

Slovis et al.reported on 19 patients with incomplete intestinal rotation, six (32%) of whom had normal cecal position and abnormal duodenojejunal junction. Among these six patients midgut volvulus was present in three, and obstructing duodenal bands were present in one. Postnatal fixation of the duodenojejunal junction was accomplished over a ten-month to two-year period in two of the six patients.

Intestinal villi begin to appear in the distal duodenum and the proximal ileum in the eighth week. The whole intestine is provided with villi by the end of the fourth month (the villi of the colon will disappear after birth). Brunner's glands appear in the third and fourth months, and may be capable of secretion by the end of the fifth month.[11] The striate border of the epithelial cells is visible by the third month.

Circular muscle appears in the duodenum late in the fifth week; longitudinal muscle is visible in the third month. Before the longitudinal muscle appears, neuroblasts of the myenteric plexus follow the vagus nerve down the surface of the circular muscle. By the eighth week, all but the distal colon is innervated. The nerve supply is completely in place by the twelfth week

GROSS ANATOMY:

The small intestine extends from the pylorus to the cecum. The length of this structure varies depending on whether radiologic, surgical, or autopsy measurements are made. In the living, it is thought to measure 4 to 6 m2 .The small intestine consists of three segments in series: the duodenum, the jejunum, and the ileum.

The duodenum, the most proximal segment, lies in the retroperitoneum adjacent to the head and inferior border of the body of the pancreas. The

duodenum is demarcated from the stomach by the pylorus and from the jejunum by the ligament of Treitz. The jejunum and ileum lie within the peritoneal cavity and are attached to the retroperitoneum by a broad-based mesentery.No distinct anatomic landmark between the jejunum

from the ileum;

The proximal 40% of the jejunoileal segment -jejunum

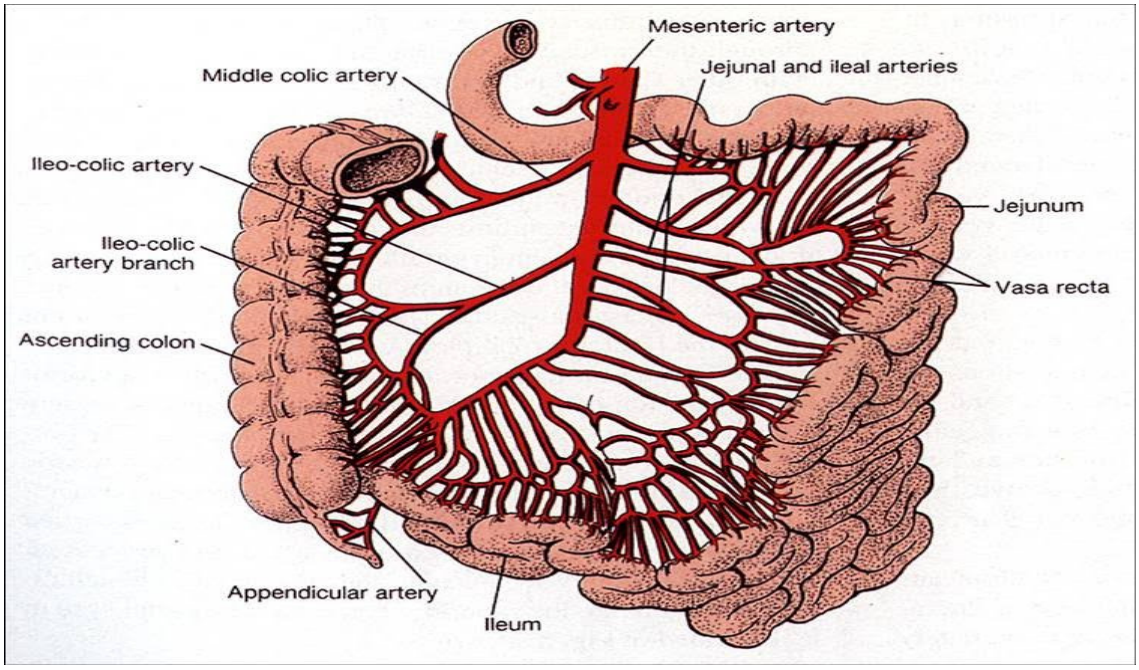
The distal 60% -ileum.

The ileum is demarcated from the cecum by the ileocecal Valve. The small intestine contains internal mucosal folds known as ***plicae circulares*** **or** ***valvulae conniventes.*** These folds are also visible radiographically and help in the distinction between small intestine and colon, which does not contain them. Gross examination of the small-intestinal mucosa also reveals aggregates of lymphoid follicles. Those follicles, located in the ileum, are the most prominent and are designated *Peyer's patches*.

BLOOD SUPPLY:

Most of the duodenum derives its arterial blood from branches of both the celiac and the superior mesenteric arteries. The distal duodenum, the jejunum, and the ileum derive their arterial blood from the superior

mesenteric artery. Their venous drainage occurs via the superior mesenteric vein.



Fig(2)

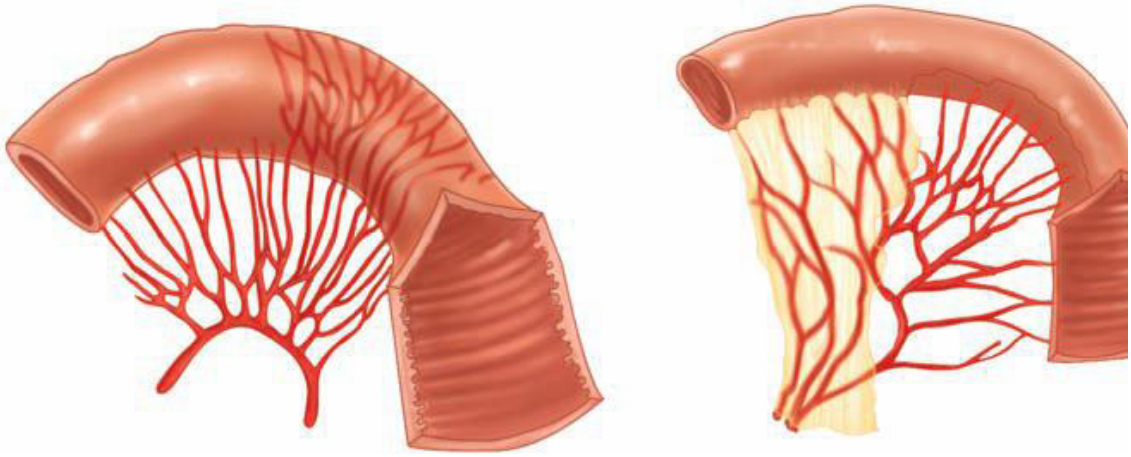


Fig (3)

LYMPHATIC DRAINAGE AND NERVE SUPPLY:

Lymph drainage occurs through lymphatic vessels coursing parallel to corresponding arteries. This lymph drains through mesenteric lymph nodes to the cisterna chyli, then through the thoracic duct, and ultimately into the left subclavian vein. The parasympathetic and sympathetic innervation of the small intestine is derived from the vagus and splanchnic nerves, respectively

LARGE INTESTINE:

The large intestine is the part of intestine starts from the ileocecal valve end at anus. It is divided into the *colon, rectum*, and *anal canal*. The colon and rectum consists of five layers: mucosa, submucosa, inner circular muscle, outer longitudinal muscle, and serosa. In the colon, the outer longitudinal muscle is thickened to form three *teniae coli*, they converge proximally at the appendix and distally at the rectum, where the outer longitudinal muscle layer is circumferential. In the distal part of the rectum, the inner smooth muscle layer coalesces to form the internal anal sphincter. The intraperitoneal colon and proximal one-third of the rectum are covered by serosa; the mid and lower rectum lack serosa.

The *cecum* is the widest diameter portion of the colon (7.5–8.5 cm) and has the thin muscular wall. so the cecum is more prone to perforation and less to obstruction.

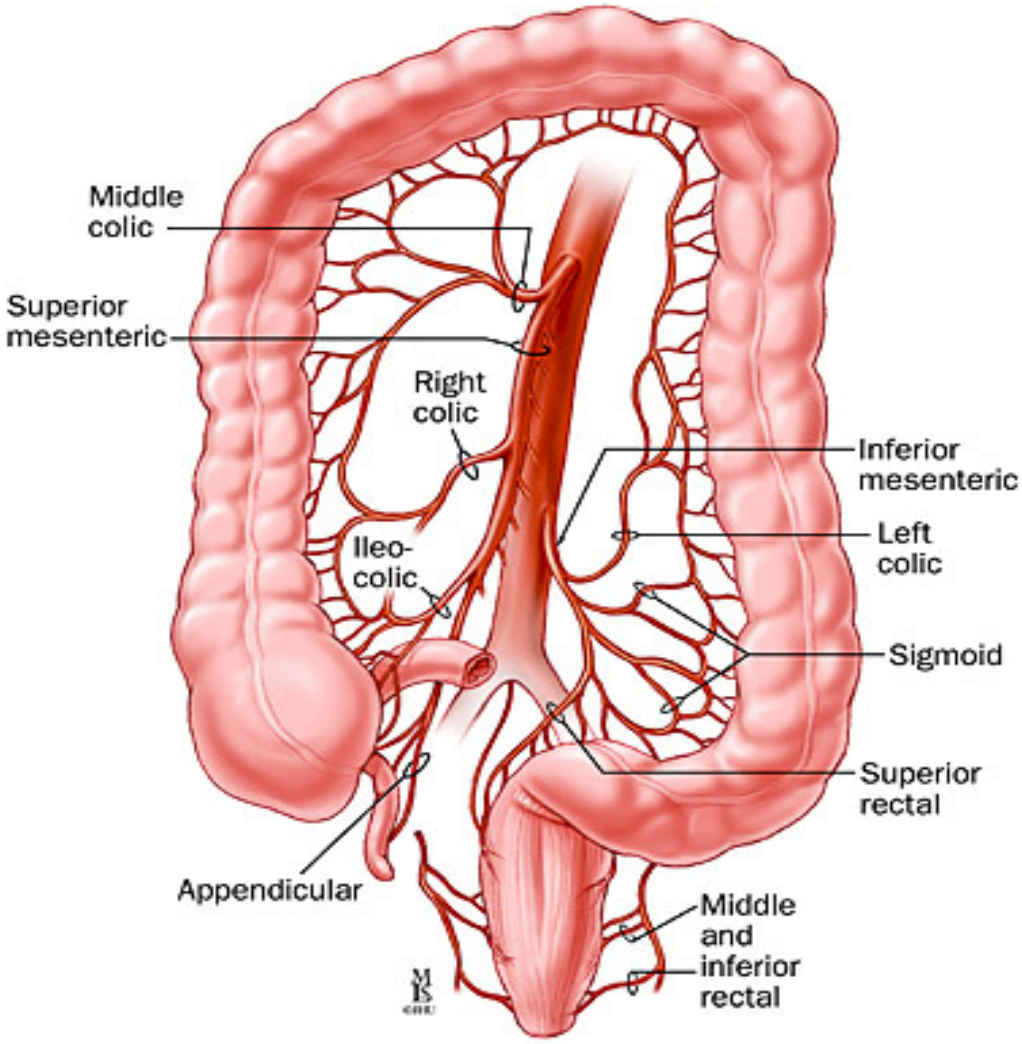
VASCULAR SUPPLY:

The colon is supplied by following branches of the *superior mesenteric artery*

1. **ileocolic artery**-which supplies blood flow to the terminal ileum and proximal ascending colon;
2. **right colic artery**, which supplies the ascending colon.
3. **middle colic artery**, which supplies the transverse colon.

The *inferior mesenteric artery* branches into

1. **left colic artery**, which supplies the descending colon several *sigmoidal branches*, which supply the sigmoid colon.
2. **superior rectal artery**, which supplies the proximal rectum. The terminal branches of each artery form anastomoses with the terminal branches of the adjacent artery and communicate



Fig(4)

LYMPHATIC DRAINAGE:

The lymphatic drainage starts in the network of lymphatics in the muscularis mucosa. Lymphatic vessels and lymph nodes follow the regional arteries.

Lymph nodes are found on the bowel wall –**epicolic**

Along the inner margin of the bowel adjacent to the arterial arcades-**paracolic**

Around the named mesenteric vessels -**intermediate**

At the origin of the superior and inferior mesenteric arteries -**main.**

The *sentinel lymph nodes* are the first one to four lymph nodes to drain a specific segment of the colon and are thought to be the first site of metastasis in colon cancer. The utility of sentinel lymph node dissection and analysis in colon cancer remains controversial.

NERVE SUPPLY:

The colon is being innervated by both *sympathetic* (**inhibitory**) and *parasympathetic* (**stimulatory**) nerves, which parallel the course of the arteries.

Sympathetic nerves --T6-T12 and L1-L3.

The parasympathetic innervation

To the right and transverse colon is from the vagus nerve. To the left colon arise from sacral nerves S2-S4 to form the nervi erigentes.

ILEOSTOMY:

An ileostomy is an opening constructed between the small intestine and the abdominal wall, usually by using distal ileum, but sometimes more proximal small intestine.

The surgical construction of an ileostomy must be more precise than that for a colostomy because the content is liquid, high volume, and corrosive to the peristomal skin

Types of ileostomies:

The most common has been the **end ileostomy**, using a technique popularized by Brooke and Turnbull.

The **loop ileostomy** is used, as described, to protect diseased areas or surgical procedures distally. The loop-end ileostomy is a stoma that uses the principles of a loop ileostomy but is constructed as a permanent stoma when the mesentery and its blood supply need special protection.

The **continent ileostomy**, a technique devised by the Swedish surgeon, Nils Kock, is an internal pouch that does not require the wearing of an external appliance. The urinary conduit is a stoma constructed of small intestine to provide a conduit to the outside for the urinary tract

DETERMINATION OF STOMA SITE:

The location of the ileostomy must be carefully chosen before surgery . It should avoid any deep folds of fat, scars, and bony prominences of the abdominal wall.

The site is chosen by drawing a vertical line through the umbilicus and a transverse line through the inferior margin of the umbilicus and applying a disk the size of a stoma faceplate (approximately 8 cm in diameter) to determine the location. The disk is allowed to abut on both of the lines in the right lower quadrant, and the site is marked with ink. The patient then is brought to an exaggerated sitting position and allowed to turn in various directions to be sure the site is adequate in all positions. If not, the location should be adjusted to bring the stoma to the summit of the infraumbilical fat fold to be sure that there is clearance for fitting of an appliance.

When the patient is in the operating room and anesthesia has been administered, the chosen site is scratched with a fine needle before preparation of the abdominal skin is carried out. The majority of complications arising from ileostomies can be avoided by taking these precautions in marking the site for the stoma preoperative

INDICATIONS:

Total proctocolectomy with a permanent end Brooke ileostomy still remains the gold standard operation for patients with ulcerative colitis and familial polyposis.

A temporary loop ileostomy may be indicated for the following conditions

- Protecting a complicated anastomosis, such as coloanal and ileoanal anastomoses
- Proven anastomotic leakage at surgery
- Technical difficulties, such as incomplete staple rings and tension
- Anastomosis in an irradiated field
- Anastomosis in the presence of mild peritonitis or contamination
- Multiple distal anastomoses

- Crohn's disease
- Carcinomatosis with distal obstruction
- Abdominal trauma
- Congenital anomalies

END ILEOSTOMY:

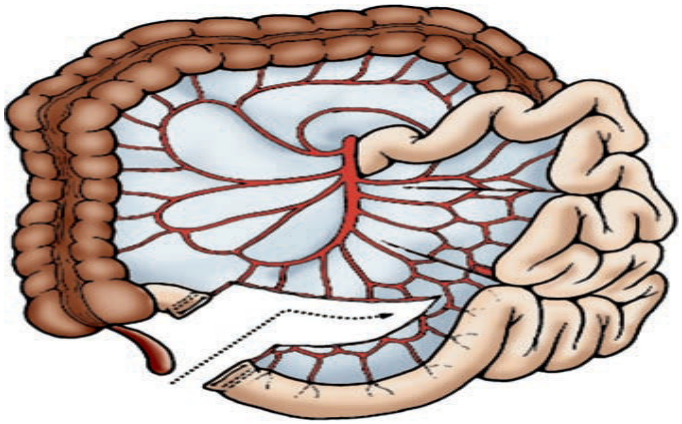
The construction of the ileostomy begins early in the operative procedure. When the colon is mobilized for colectomy, as is the usual case when an ileostomy is to be constructed, full mobilization of the mesentery of the distal ileum should be carried out . This is an important and often neglected part of the procedure. There is an embryonic fusion plane of the mesentery of the small intestine to the right posterior abdominal wall. The ileum can be elevated on this mesentery up to the duodenum, allowing extreme mobility of the terminal ileum. The ileocolic artery is then transected as part of the colectomy, and the remaining blood supply to the small intestine is preserved . It is important to preserve the most distal arcade of vessels and mesenteric tissue on the ileum at the segment of the intended ileostomy. This blood

supply is prepared early in the operative procedure so that if there is any question about the vascularity of the distal ileum, it will be known long before the abdomen is closed.

An opening is prepared in the right lower quadrant of the abdominal wall at the previously marked site . This is accomplished by placing traction clamps on the dermis, fascia, and peritoneum so that the round configuration of the stoma will be maintained. A 3-cm disk of skin is excised, the fat is preserved, and a longitudinal incision approximately 4 cm long is made through all layers, with each layer being retracted with three small retractors as the incision is deepened. The fascia is incised longitudinally as well, and frequently a small lateral notch is placed on each side. The muscle is separated, and any vessels are coagulated. The posterior fascia and peritoneum then are incised, and the surgeon inserts two fingers through the opening to be sure that it will accommodate the intestine. The ileum is brought through the abdominal wall to the intended length, usually about 6 cm .

The next objective is to make a protruding, everting stoma. This is accomplished by placing 3-0 chromic catgut sutures through the full thickness of intestine, the seromuscular area of the ileum at the base of the stoma, and the dermis . Sutures through the skin should be avoided, because any stellate scarring will prevent the maintenance of the

required seal of the appliance. Eight of these sutures should be placed, one in and one between each quadrant, and as traction is applied after they are all placed, the stoma should evert nicely.



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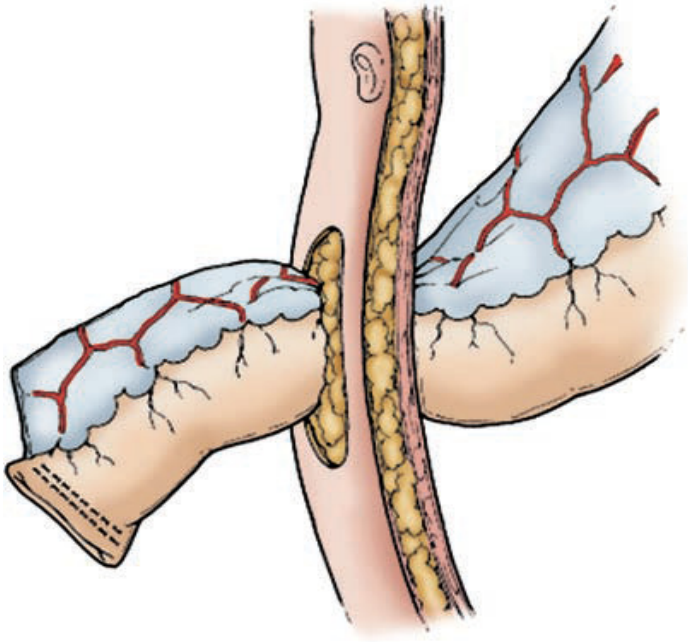

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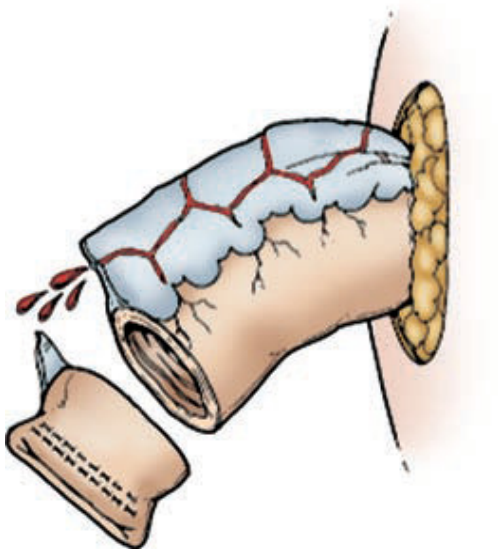

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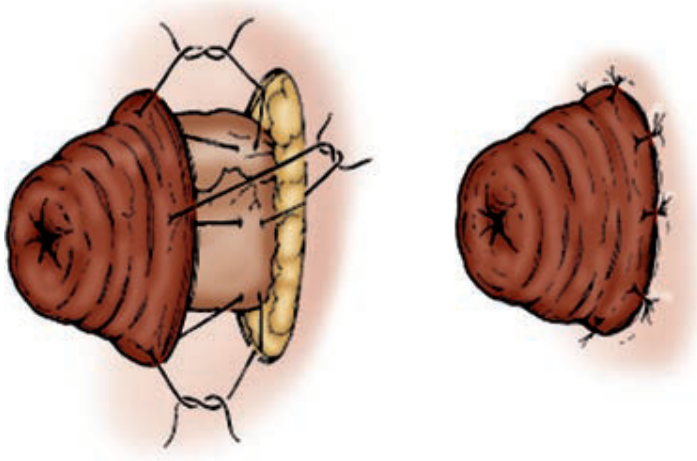


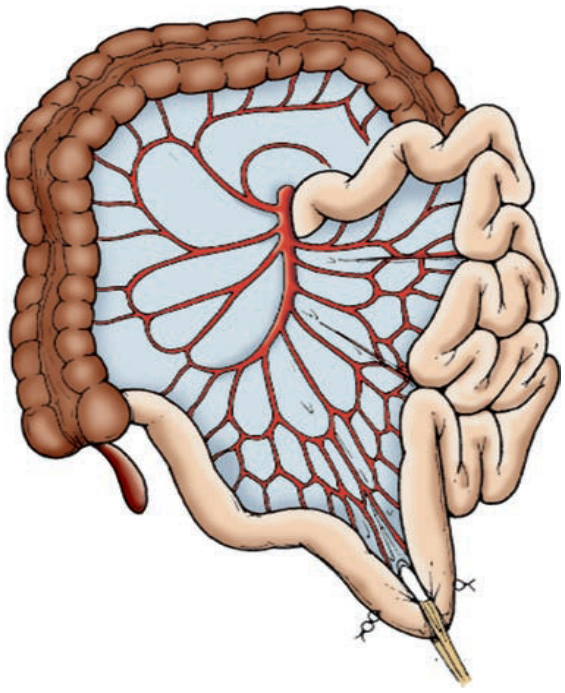
Fig(8)

LOOP ILEOSTOMY:

The loop ileostomy stoma is constructed when both diversion of the intestinal flow and decompression of the distal intestine are required. The location is chosen exactly as one would choose the site for an end ileostomy. The construction can then follow one of two techniques. The technique popularized by Turnbull at the Cleveland Clinic involves choosing the site in the intestine for the intended loop ileostomy and then placing orienting sutures proximally and distally . A loose suture with one knot can be placed proximally and one with two groups of knots distally. It is important to maintain this orientation as the stoma is constructed.

The opening in the abdominal wall is made the same as for an end ileostomy but the loop of intestine is drawn through this abdominal opening by a tracheostomy tape placed through the mesentery and around the intestine . Some surgeons recommend orienting the proximal functioning loop in the inferior position, placing a partial twist on the loop of intestine. Although this may help configure the spout of the ileostomy so that ileal effluent is less likely to undermine the appliance, this maneuver may be associated with a higher rate of intestinal

obstruction. In massively obese patients with a shortened mesentery, it is necessary to make a conical configuration of the opening in the abdominal wall, with the internal opening being much larger than the external opening at the skin. If this maneuver is used, it is best to place a row of tacking sutures between the peritoneum and the loop of intestine to maintain position and orientation. Once the loop is drawn through the abdominal wall, the abdomen is closed, maintaining the orientation of the loop. It is usually not necessary to fix the mesentery of the ileum to the abdominal wall when constructing a loop ileostomy. The wound is then protected, and attention is directed to the stoma.



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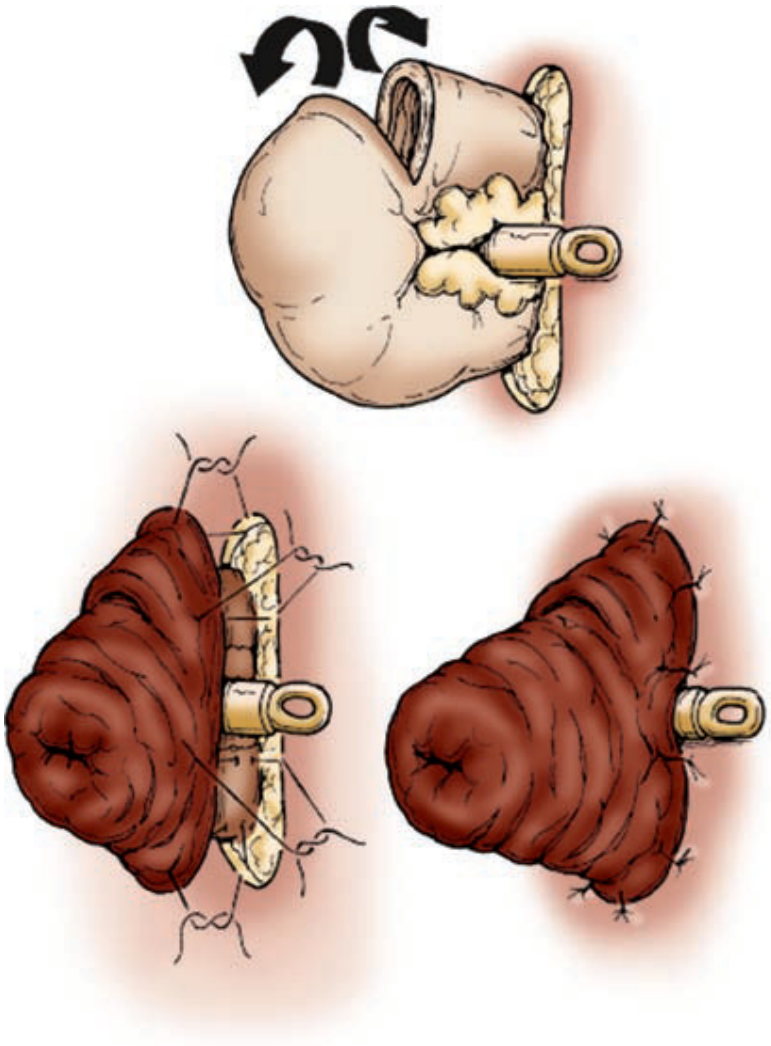


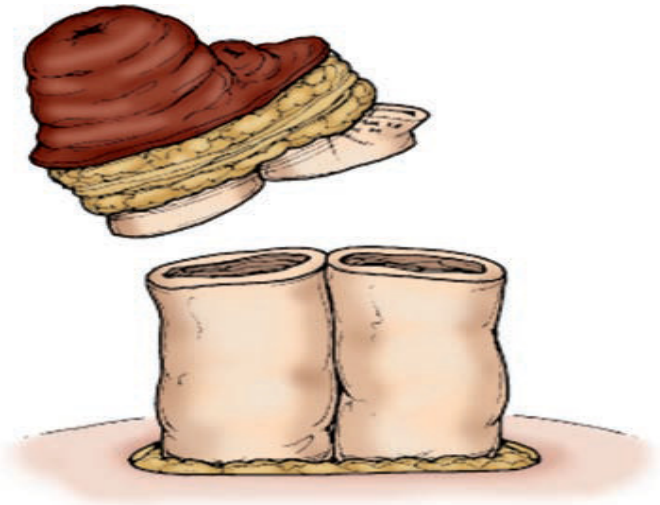
Fig(10)

CLOSURE OF LOOP ILEOSTOMY:

For closure of the loop ileostomy a circumferential dissection is carried out, with a minimal rim of skin included, until the peritoneal cavity is entered and clean peritoneal surface of abdominal wall can be palpated circumferentially. Once this is accomplished, the loop of intestine can usually be brought easily through the circular incision in the abdominal

wall. Closure then is completed by excising the rim of fibrous tissue, with care being taken to preserve as much of the viable intestinal wall as possible .The choice of closure then varies between hand-sutured transverse closure . stapled transverse closur or formal construction of an anastomosis.

Fig(11)



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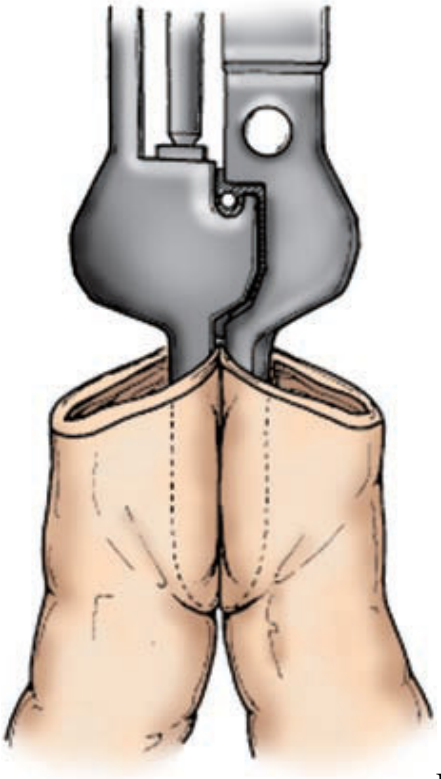

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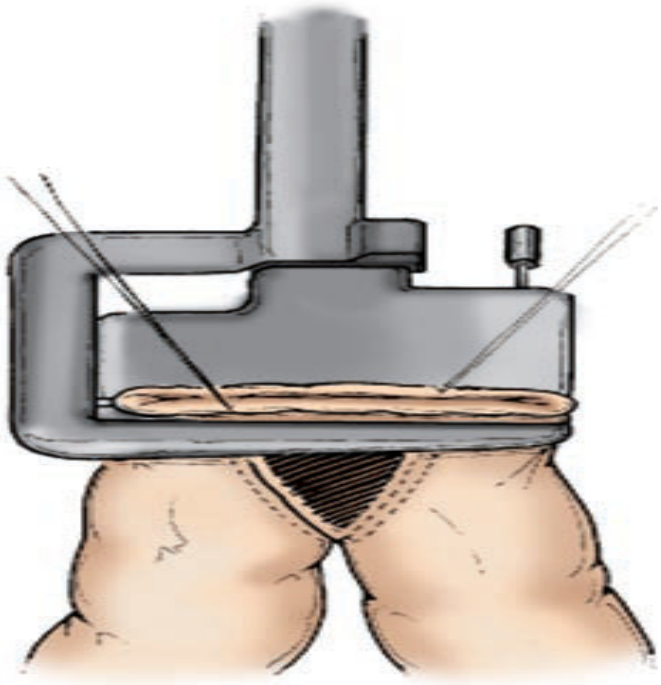

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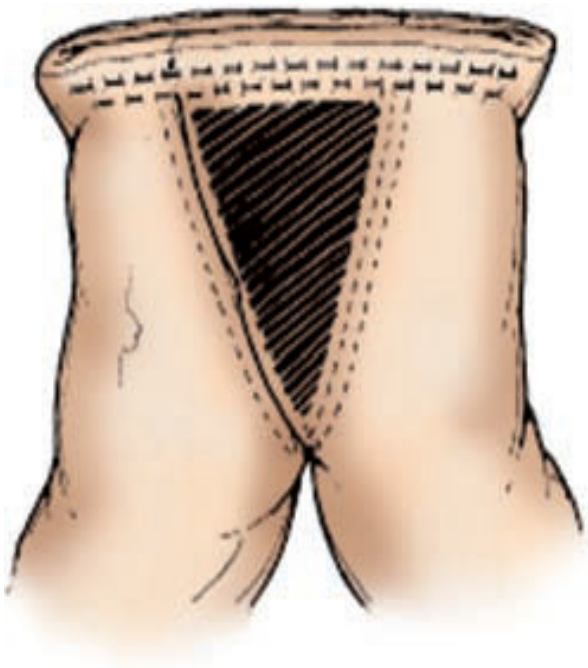


Fig(14)

CONTINENT ILEOSTOMY:

The continent ileostomy, or Kock pouch, has been used as an alternative to a conventional ileostomy for selected patients with ulcerative colitis or familial polyposis. It involves construction of an internal pouch with a continent nipple valve. The continent ileostomy allows placement of the stoma in an inconspicuous location and avoids the need for wearing an appliance permanently. It does require multiple intubations of the pouch daily to allow emptying. The complication rate for construction of this continent ileostomy has been high because of the difficulty in maintaining continence of the nipple valve and position of the pouch so that intubation can be easily accomplished.

This operation should probably be done only in centers where it is performed frequently and where the complications are managed by an experienced team. The continent ileostomy can be constructed as a primary procedure for patients with ulcerative colitis. It may also be considered for patients who have an existing ileostomy that malfunctions, is poorly located, or causes severe injury to the peristomal skin because of allergic reaction to the ostomy equipment.

Most surgeons agree that the continent ileostomy is contraindicated for patients with Crohn's disease because of the significant risk of recurrent

disease. It is also not to be recommended for patients who have a well-functioning end ileostomy.

The advantages of continent ileostomy are,

- ✓ patient need not wear an appliance,
- ✓ patient is continent between intubations,
- ✓ she or he may experience a better quality of life.

CONSTRUCTION OF CONTINENT ILEOSTOMY:

The construction of an intestinal reservoir for feces was first described in 1967 by Nils Kock. His original description of a U-shaped pouch was based on the theory that interruption of coordinated peristalsis would enhance capacity. Since then, J- and S-shaped pouches have been used with similar results. An S-shaped pouch is described here.

The construction of a continent ileostomy, or Kock pouch, can be broken into four components:

(1) the creation of a pouch,

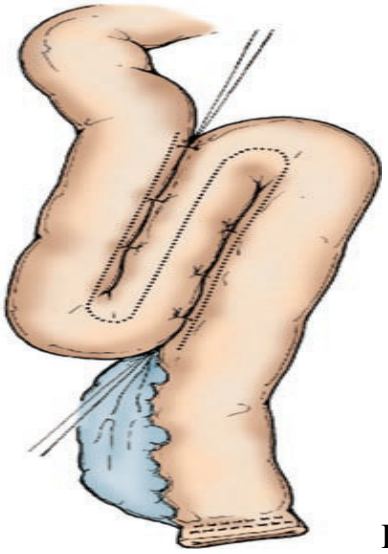
(2) the creation of a nipple valve, which provides continence,

(3) the suspension of the pouch from the abdominal wall in such a way as to prevent slippage of the nipple valve,

(4) the creation of a stoma.

The terminal ileum should be transected as close to the cecum as possible . The S-shaped reservoir is fashioned from a 30- to 45-cm segment of distal ileum, starting 15 cm from the cut end . The last 15 cm is used for the outlet (5 cm) and nipple valve (10 cm). The intestine is tacked in place in the shape of an S, using interrupted seromuscular sutures of 2-0 polyglycolic acid placed at the edge of the mesentery. Each limb of the S should be 15 cm long. The intestine is opened along the entire portion of the S, with the surgeon taking care to incise close to the mesenteric border on the outer limbs of the S and exactly at the antimesenteric surface of the central limb.

A single-layer continuous suture line of 2-0 synthetic absorbable suture is first placed between the two walls of the central limb and the inner walls of the two outer limbs . The sutures that begin on the posterior wall continue onto the anterior wall as the suture line reaches the outer wall of each of the two outer limbs of the S. The anterior wall is completed by continuing the suture from each direction, using an inverting full-thickness technique (either "baseball" or Connell) until the sutures meet in the middle. Before the pouch is closed, the nipple valve must be constructed.



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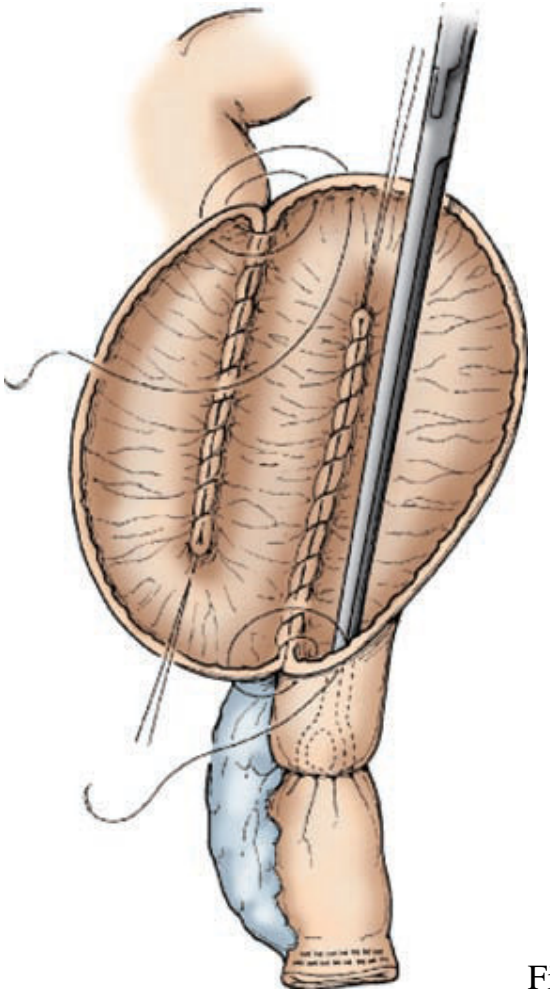

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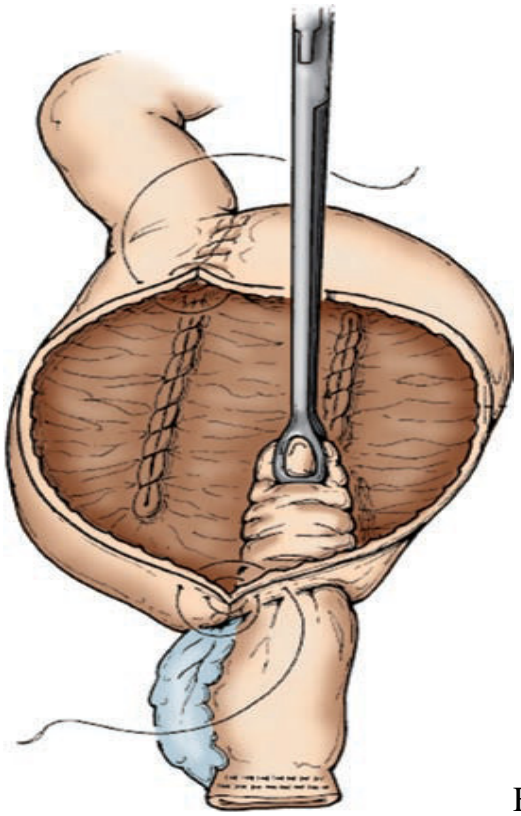

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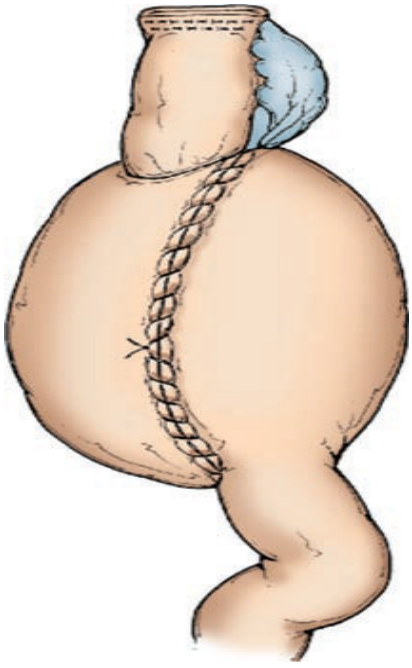

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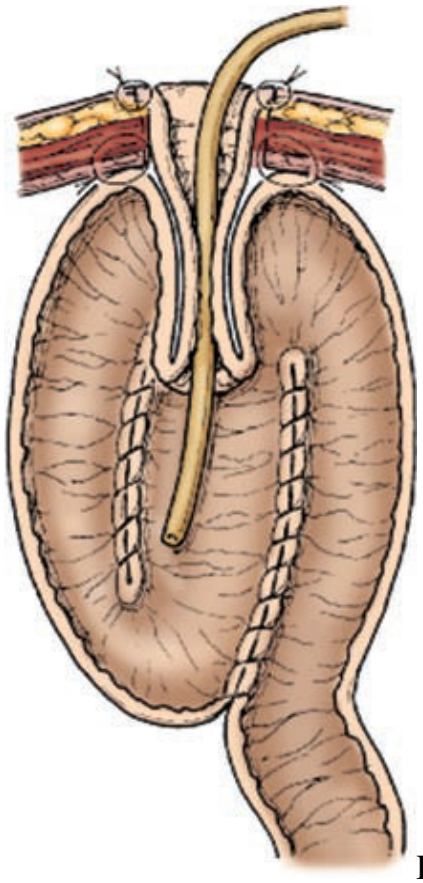
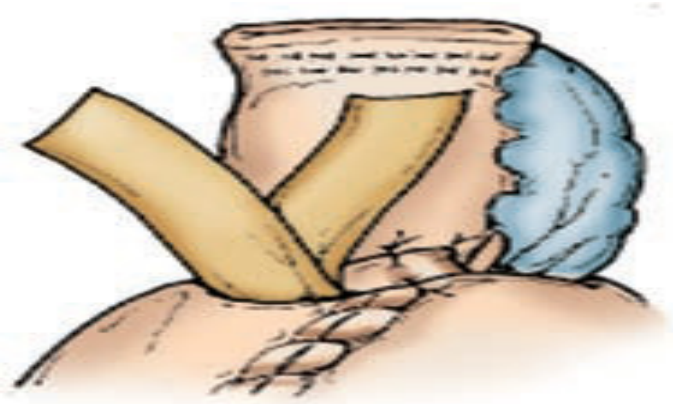


Fig(18)

The 15 cm of ileum distal to the pouch will become the nipple valve and stoma. Prior to the completion of the anterior wall suture, with the pouch mostly open, the nipple valve is made by intussuscepting the ileum into the pouch. A Babcock clamp is passed into the distal ileum from within the pouch and is closed onto the full thickness of the bowel at a point 5 cm from the pouch. The clamp is drawn into the pouch, intussuscepting the bowel on itself to form the nipple valve. The valve is maintained in this position by placing a line of GIA staples on either side of the

mesentery and a third row of staples on the antimesenteric aspect . Occasionally it is possible to place four staple lines equidistant around the circumference of the nipple valve . A linear-cutting



Fig(19)

stapling instrument with the cutting blade removed is used to place the staple lines. One arm of the instrument is inserted into the lumen of the nipple from within the pouch before closing and firing the instrument. These staple lines make a serosa-to-serosa fixation of the nipple valve and prevent its unfolding. The anterior wall of the pouch is then completed as previously described . A 5-cm outlet of distal ileum remains that will pass through the abdominal wall and allow construction of a flush stoma.

COMPLICATIONS OF ILEOSTOMY:

These patients suffered massive fluid and electrolyte imbalance and often death, which were related to the sequestration of fluid secondary to the small bowel obstruction. This condition is called "**ileostomy dysfunction**" and this is anticipated after the construction of each stoma.

The potential complication of ileostomy is **dehydration.** In patients with newly constructed ileostomies, the output of intestinal contents is frequently high enough that patients will require intravenous fluid administration until the stoma output decreases and the patient can compensate with adequate oral intake of fluids and electrolytes.

Some patients with ileostomies will present with **acute blockage of the stoma**, it is related to food indiscretion creating a "food bolus obstruction" just proximal to the level where the intestine exits the abdominal wall. This complication is most common in patients with newly constructed stomas, due to residual edema in the tissues which causes narrowing of the ileum as it crosses the abdominal wall.

Another special problem that may occur with an ileostomy is the formation of a **paraileostomy fistula**. This usually represents recurrence of Crohn's disease and should be dealt with based on the extent of the Crohn's disease. While evaluation and treatment are being carried out,

the appliance should be modified so that the fistula is allowed to drain into the appliance, and no attempt should be made to cover the fistula opening. This is achieved by modification of the configuration of the skin barrier component of the appliance.

COLOSTOMY:

The most common indication for constructing a colostomy is carcinoma of rectum. Since a colostomy is an opening of the large intestine with no sphincteric control, its location would obviously be better on the abdominal wall than in the perineum, where an appliance cannot be maintained.

TYPE OF COLOSTOMY:

1. TYPE BY ANATOMICAL LOCATION
    - End-sigmoid colostomy.
    - End-descending colostomy- if the inferior mesenteric artery is sacrificed during an operation for cancer of the rectum, the blood supply to the sigmoid colon is no longer dependable, and it should not be utilized for stoma construction. Therefore, an "end-descending" colostomy is usually preferable to an end-sigmoid colostomy.
    - Transverse colostomy

- Cecostomy

TYPE OF FUNCTION:

There are two considerations:

(1) To provide decompression of the large intestine,

(2) To provide diversion of the feces.

Decompressing Colostomy:

A decompressing colostomy does not necessarily provide diversion of feces. These stomas are constructed for

- distal obstructing lesions causing massive dilation of the proximal colon without ischemic necrosis,
- severe sigmoid diverticulitis with phlegmon,
- for select patients with toxic megacolon

Type of decompressing colostomy:

(1) "blow-hole" decompressing stoma constructed in the cecum or transverse colon,

(2) Tube type of cecostomy,

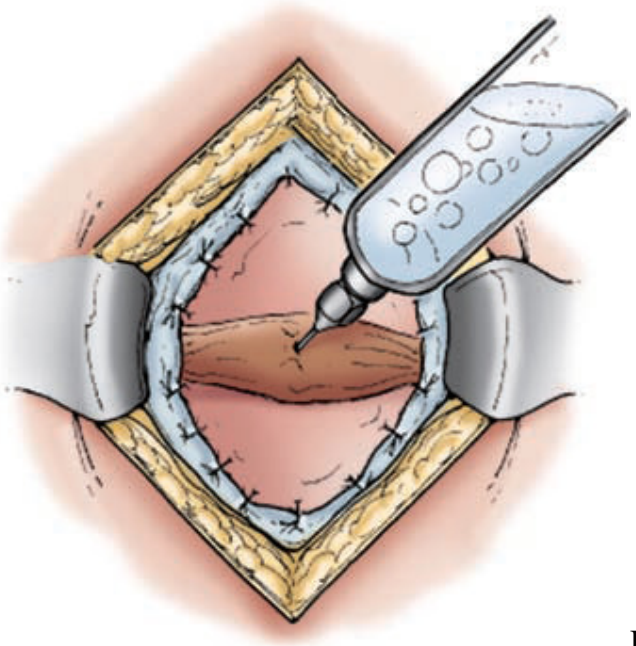
(3) Loop-transverse colostomy.

Cecostomy and "Blow-Hole" Stoma

A cecostomy is constructed only rarely because it is difficult to manage postoperatively. It has to be reserved for the severely, acutely ill patient with massive distention and impending perforation of the colon. This is seen most often with distal obstructing cancer or in some of the pseudo-obstruction syndromes seen in elderly or immunocompromised patients.

Because these operations are done on an urgent basis and the abdomen is usually distorted by intestinal dilation, the choice of site for an incision is over the dilated cecum. The location of this incision or of an intended decompressing transverse colostomy is selected by placing a marker on the umbilicus when an abdominal film is obtained.

The disadvantage of a cecostomy or loop colostomy done through a small incision is that we cannot evaluate other parts of the colon for potential ischemic necrosis due to massive dilation.



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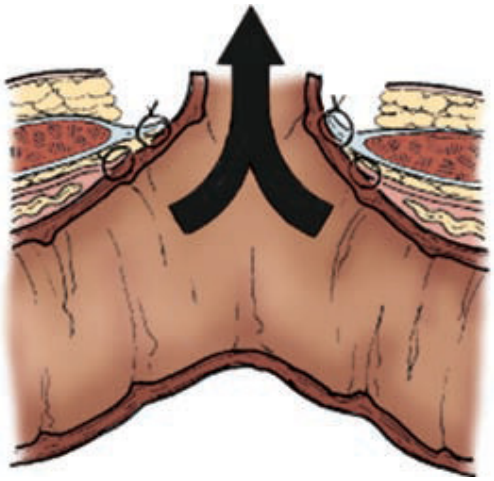
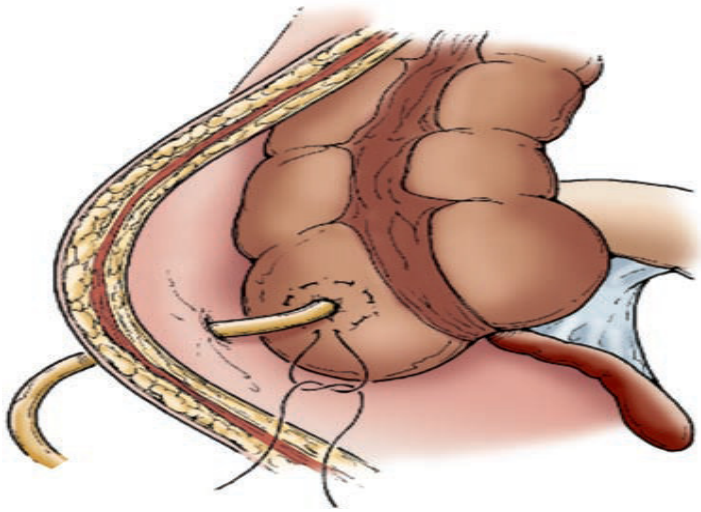


Fig(21)

TUBE CECOSTOMY:

A tube cecostomy is constructed by making an incision over the cecum or by approaching the cecum through a laparotomy incision. A purse-string suture is put in the cecal wall, and a large mushroom-tipped or Malecot catheter is placed in the cecum. The purse-string suture secures the catheter. Usually a second purse-string suture is placed, and the tube is brought through a right lower quadrant incision. The cecum then is sutured to the peritoneum of the abdominal wall. The advantage of this stoma is that there is less chance of prolapse. The major disadvantage is that the tubes usually become blocked with feces, drain poorly, and sometimes leak stool adjacent to the drain.



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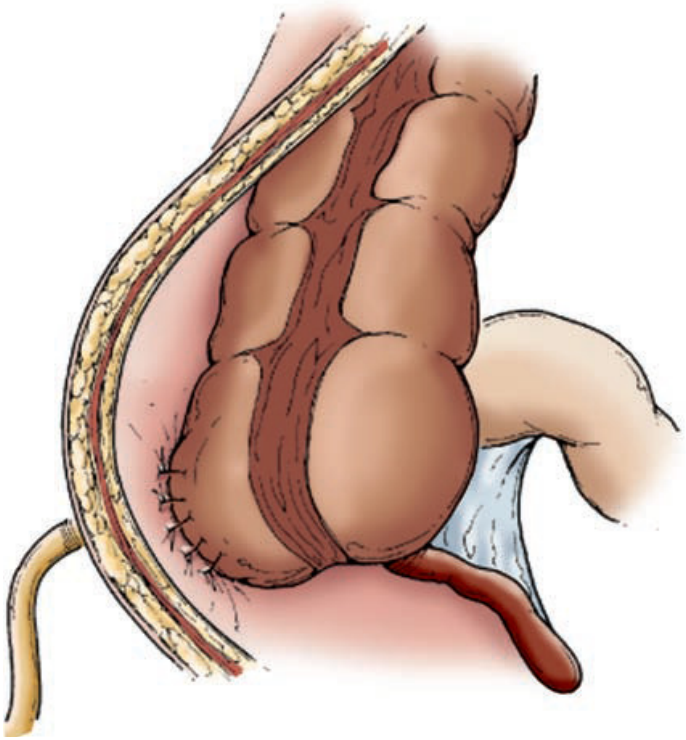

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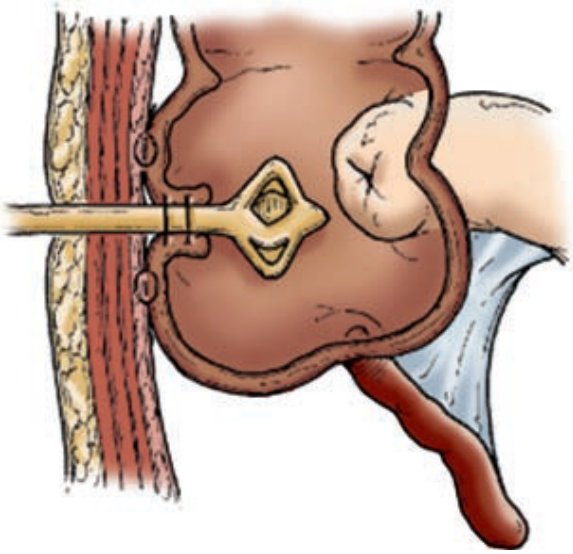
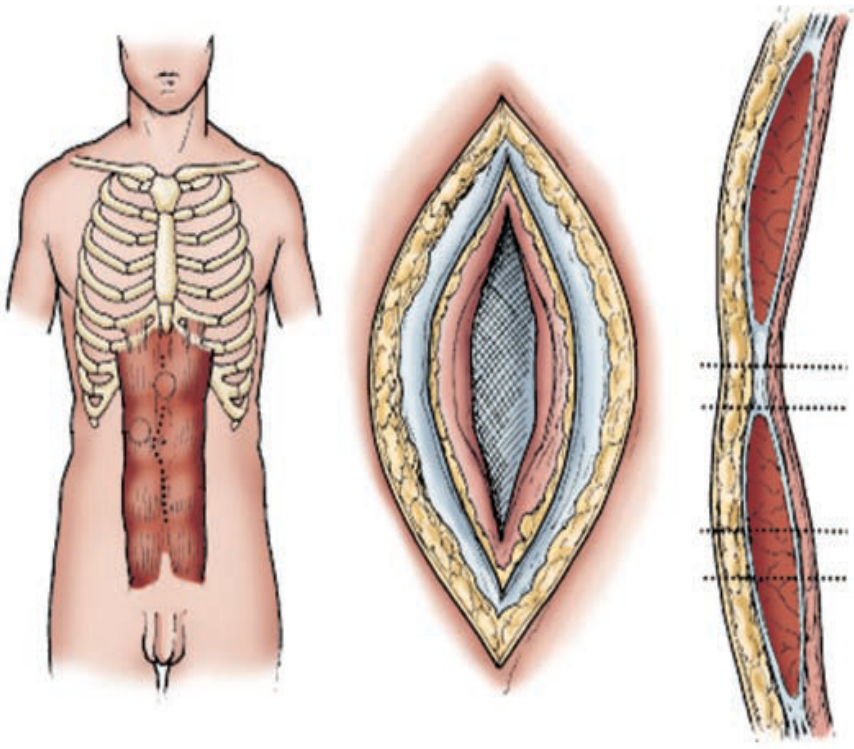


Fig(24)

TRANSVERSE LOOP COLOSTOMY:

A loop-transverse colostomy can be used as a decompressive stoma, though it will divert the flow of stool from the distal colon. The other advantage is that when properly constructed, a loop-transverse colostomy can serve as a long-term stoma.

The incidence of prolapse is unavoidable. Parastomal hernias may occur if the fascia is not closed tightly enough, and these stomas cannot be regulated by irrigation techniques.



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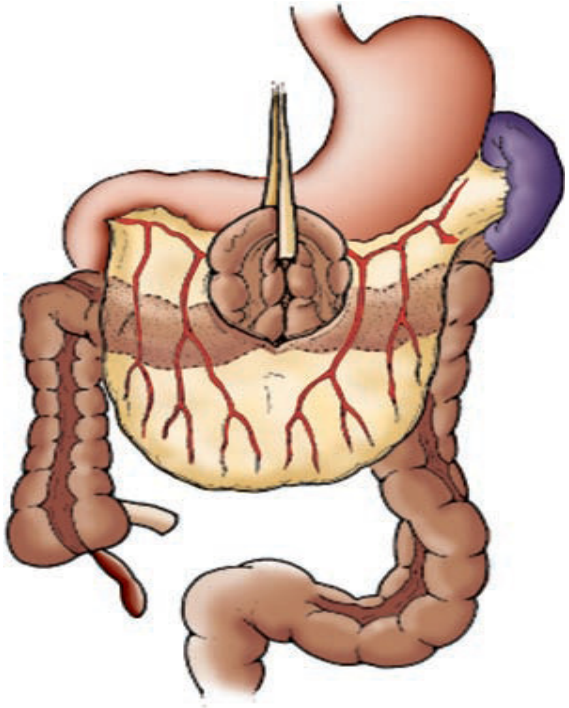

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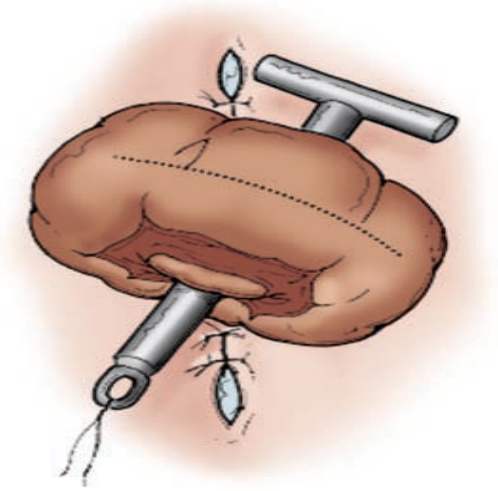

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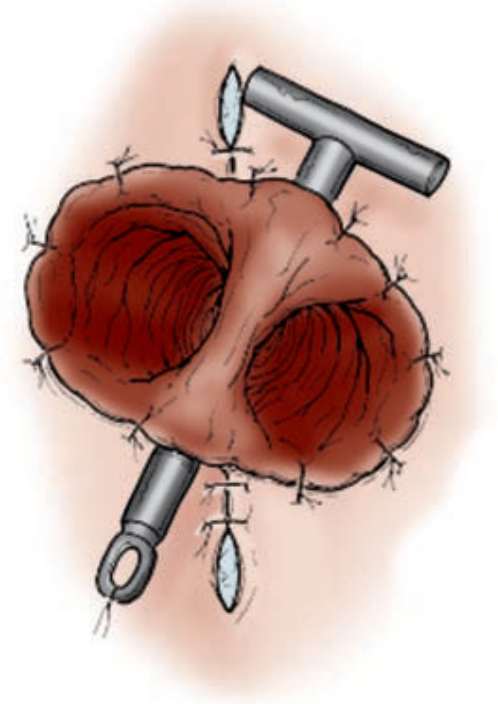


Fig(30)

CONSTRUCTION OF END DIVERTING COLOSTOMY:

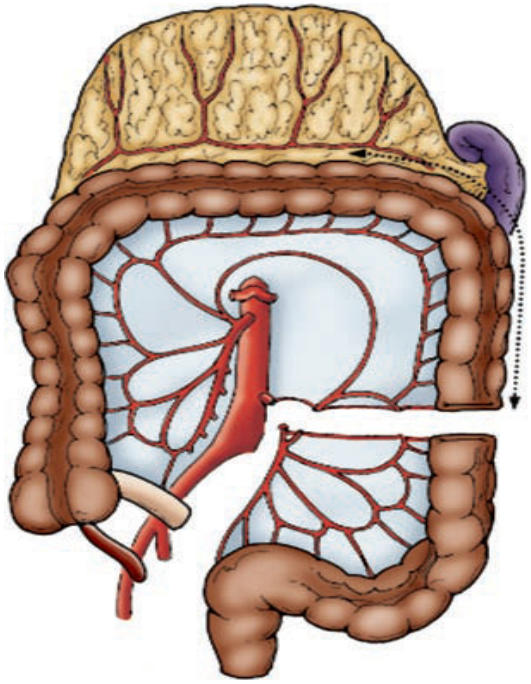
An end, diverting, colostomy usually is located in the left lower quadrant, where the site is chosen preoperatively by placing a vertical line through the umbilicus and another line transversely through the inferior margin of the umbilicus and by affixing a disk the size of a stoma faceplate to designate the stoma opening through the rectus muscle and on the summit of the infra umbilical fan fold.

Once a site is chosen, the patient should be evaluated in multiple body position to verify the adequacy of the stoma site. Patient should be evaluated in all positions like sitting ,standing ,lying down position .The location should be adjusted up or down, if needed the use of upper quadrants of the abdomen may be considered to allow proper fixation of an appliance and easy access by the patient.

The site usually is marked with ink in the patient's room and then is scratched into the skin with a needle in the operating room after induction of anesthesia. This is totally painless for the patient and does not leave a permanent tattoo should colostomy not be needed.

The fat, fascia, muscle, and posterior peritoneum are then incised longitudinally. No fat is excised. The opening is then dilated to allow

passage of two fingers, and the closed end of the colon is pulled through the abdominal wall . There, mesentery of the colon can be sutured to the lateral abdominal wall with a running suture, although the complication of small bowel obstruction due to torsion of the small bowel mesentery around the colon mesentery has not been proven to be reduced by this maneuver. After the wound is closed and protected, attention is directed to completing the colostomy. The stoma is completed by excising the staple or suture line and by placing chromic catgut sutures between the full thickness of colon and skin. If the stoma is constructed because of inflammatory bowel disease or radiated bowel, a spigot configuration is utilized by applying principles similar to those for ileostomy construction. This facilitates a good appliance seal for anticipated high-volume, liquid effluents.



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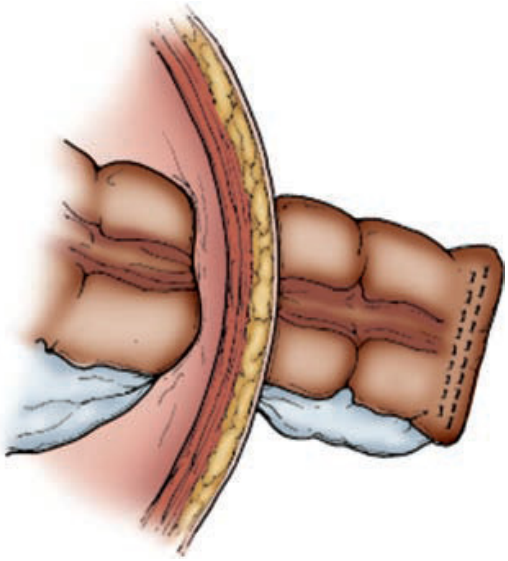

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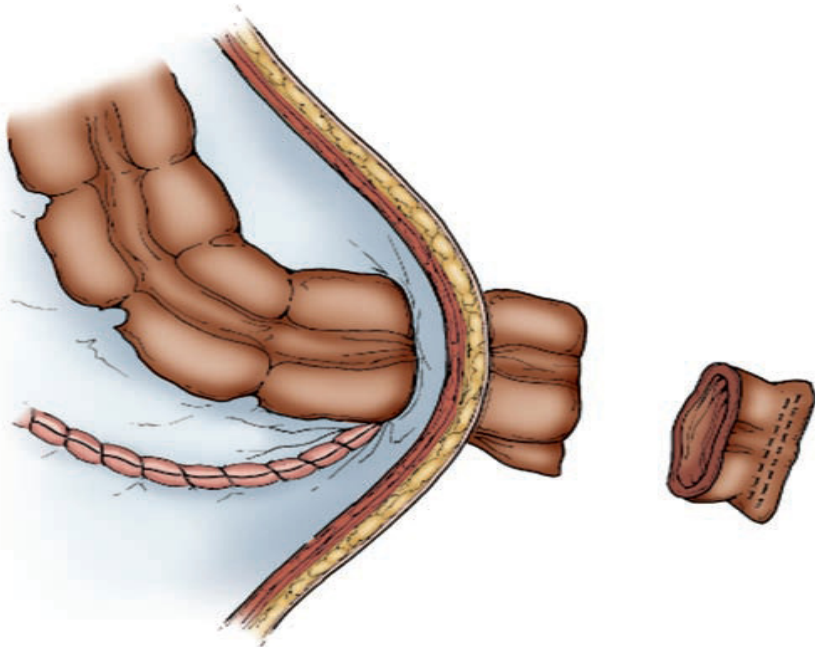

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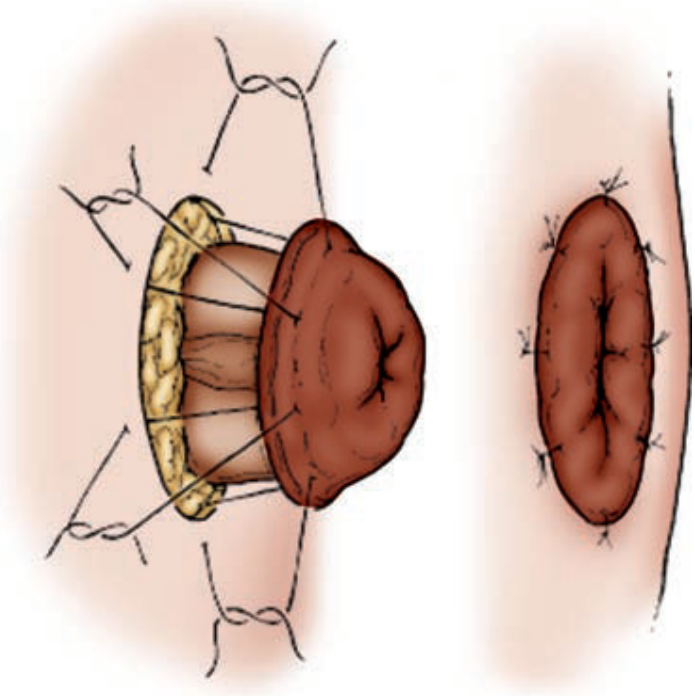


Fig(35)

Long-Term Colostomy Management

The patients with a properly constructed, well-functioning colostomy may to irrigate once a day or every other day and to wear only minimal appliance over the stoma or simply cover it with a gauze in the intervening period, although the patient should be instructed to always carry an appliance should episodes of diarrhoea occur. Simple appliances exist to allow absorption of mucus and deodorized passage of gas during the period between irrigations, if the patient elects to irrigate.

IRRIGATION

The advantages of irrigating the colostomy

- ✓ absence of need for wearing an appliance at all times,
- ✓ the provision of a more regulated lifestyle,
- ✓ the reduced passage of uncontrolled gas,
- ✓ less leakage of stool between irrigations,
- ✓ the general feeling of comfort .

The disadvantages

- ✓ it is a time-consuming ritual ,

- ✓ some people feel discomfort when the bowel is distended during irrigation.
- ✓ Irrigation carries a minimal risk of perforation.

Absorption of water during the irrigation process can be significant, and the patient with an irritable bowel syndrome will usually not achieve adequate control by irrigation and may be frustrated by attempting to do so.

The principle of irrigation is based on the fact that the distal colon displays a few mass peristaltic motions each day and that these can be stimulated by distension of the intestine.

Irrigation may not be benefited if

- ✓ The patient has irritable bowel syndrome,
- ✓ peristomal hernia,
- ✓ irradiated bowel,
- ✓ inflammatory bowel disease, poor eyesight,

Technique of irrigation:

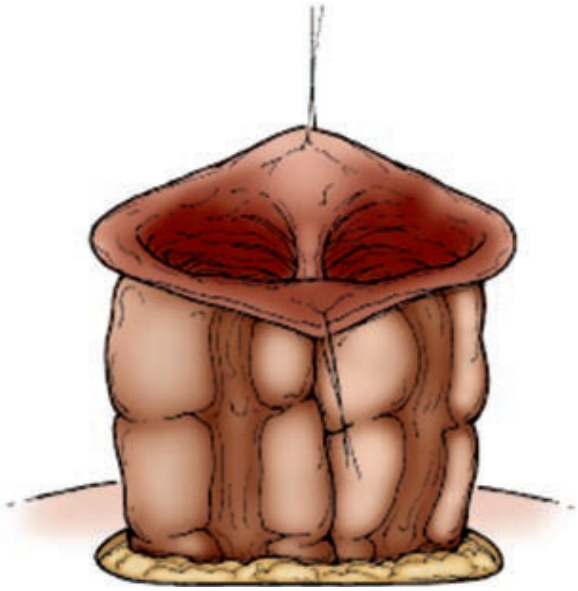
Uses a cone tip that fits into the stoma only enough to provide a seal and to allow the instillation of 500–1000 ml of water. It is not necessary to dilate the stoma, and a finger is inserted only periodically to determine the direction for placement of the cone tip. Once the water has been instilled, a drainage bag is applied, and the individual can proceed with morning chores while the colostomy empties in response to the stimulation. Between irrigations the patient usually wears a security pouch, which permits passage of gas through a charcoal filter and provides a small pad to absorb any mucus normally secreted by the colonic mucosa.

CLOSURE OF TEMPORARY COLOSTOMY:

The most important consideration in dealing with closure of a temporary colostomy is deciding when it is safe to restore intestinal continuity. Distal integrity and adequacy of sphincter muscle function must be carefully evaluated before closure of the stoma is undertaken. The reason for constructing the stoma initially must be taken into account, and contrast studies and endoscopy should demonstrate clearly that the original reason for fecal diversion no longer exists.

Adequate function of the anal sphincter must be demonstrated before the temporary colostomy is closed. This can be done by formal manometric and electromyographic studies or by giving the patient a 500-mL enema and asking him or her to hold it until he or she can comfortably walk to a toilet and expel the enema. If the sphincter does not work and cannot be repaired, the patient will be better off with a properly constructed end colostomy than with attempts to preserve a nonfunctional sphincter. Once it is decided that it is safe to close the colostomy, the procedure should be undertaken with the same skill and precaution as that required for a colon anastomosis.

Fig(36)



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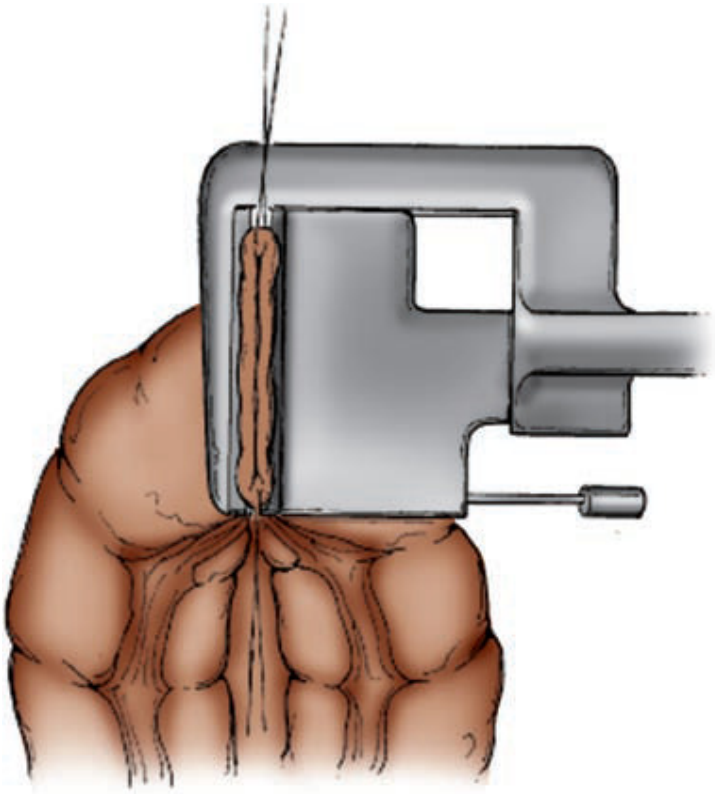

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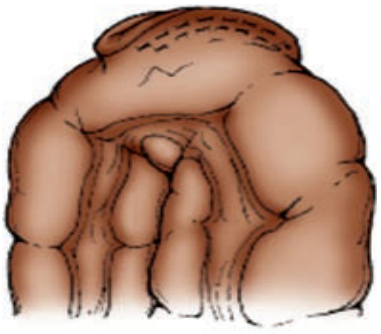


Fig(39)

COMPLICATIONS OF COLOSTOMY:

STOMA STRICTURE:

Causes include

- Serositis-developed because the serosal surface of the exposed colon was irritated by exposure to air.This can be minimised by the process called '**maturation'**
- Ischemia- usually as a result of resection of too much mesentery during construction of the stoma, or from inadequate mobilization and tension.

COLOSTOMY NECROSIS

Ischemia or necrosis of the colostomy results from

- Excessive resection of colonic mesentery, excessive tension on the mesentery leading to the stoma,
- creation of a fascial opening too small to accommodate the bowel and its mesentery.
- The blood supply to an end colostomy is unidirectional, without collaterals; therefore, it will be most sensitive to changes in visceral perfusion. If the necrosis is limited to the area of the

stoma anterior to the fascia, it may be observed carefully, and stoma revision perform electively at a later date, if necessary

Fig(40)

COLOSTOMY PROLAPSE

Prolapse of the colostomy is seen most often with the transverse loop colostomy. This is probably the result of several factors, most important being the lack of fixation of the transverse mesocolon to the retroperitoneum, and the size of the fascial opening necessary to bring both limbs of the colon and the mesocolon to the skin level. If the

transverse loop colostomy is constructed to decompress a dilated colon, the fascial opening may need to be large initially, and then be excessive once the colon decompresses and thus predispose the colostomy to prolapse later. The surgical treatment of transverse loop colostomy prolapse is difficult, and the best treatment is to rid the patient of the primary disease and restore intestinal continuity. If this is not possible, the loop colostomy should be converted to an end colostomy with mucous fistula, or a divided end-loop colostomy, with concurrent tightening of the fascial defect. Prolapse of an end colostomy can be managed by a local procedure in which the mucocutaneous junction is disconnected, the redundant colon resected, and the mucocutaneous junction recreated. Concurrent hernia repair can be performed as indicated.

Fig(41)

PARACOLOSTOMY HERNIA

Paracolostomy hernia is a most frequent complication of colostomy creation, even when all is done according to acceptable surgical principles. The creation of an abnormal opening in the abdominal wall that is then subjected on a daily basis to the pressures of Valsalva maneuvers may predispose the patient to suffer a gradual enlargement of the fascial opening.The relative weakness of the posterior rectus sheath in the inferior abdominal wall, with the potential space that exists alongside the rectus muscle, may also predispose the patient to develop a peritonealized sac in the rectus sheath without a large fascial defect. Although it is surgical dogma to create stomas in the rectus sheath to lessen the development of parastomal hernias, there are no definitive data to support this contention.

Fig(42)

COLOSTOMY PERFORATION

Perforation of the colon just proximal to the stoma most often occurs during careless irrigation with a catheter or during contrast x-ray studies when a catheter is placed in the colostomy and a balloon is inflated. This occurrence represents a surgical emergency and must be dealt with by laparotomy and reconstruction of the colostomy with adequate drainage, if there is significant fecal or barium contamination. Cases of mild inflammation with extravasation of air can only be managed with antibiotics and localized drainage, and surgery can be avoided.

QUALITY OF LIFE AFTER OSTOMY:

The literature says that most of the ostomy patients experience many problems in relation to their quality of life. The findings of our study similarly highlighted a range of quality of life problems and challenges. Colostomy is a surgical procedure intended to decrease gastrointestinal symptoms and prevent disease progression, but the inevitable changes in physical appearance led to disordered bodily function and disruption of a number of aspects of the patients' private lives.

Patients with an ostomy can face many physical issues like skin lesions or leaks, as well as psychosocial challenges of altered body image or quality of life. A properly fixed skin barrier and intact peristomal skin are required to avoid a cycle of leakage and erosion, which can impact the patient both physically and psychosocially.

MATERIALS AND METHODS:

Place of study: Stanley medical college ,department of general surgery.

Duration of study: 2013-2015

Study design: prospective ,descriptive study

Study population: 50 patients .

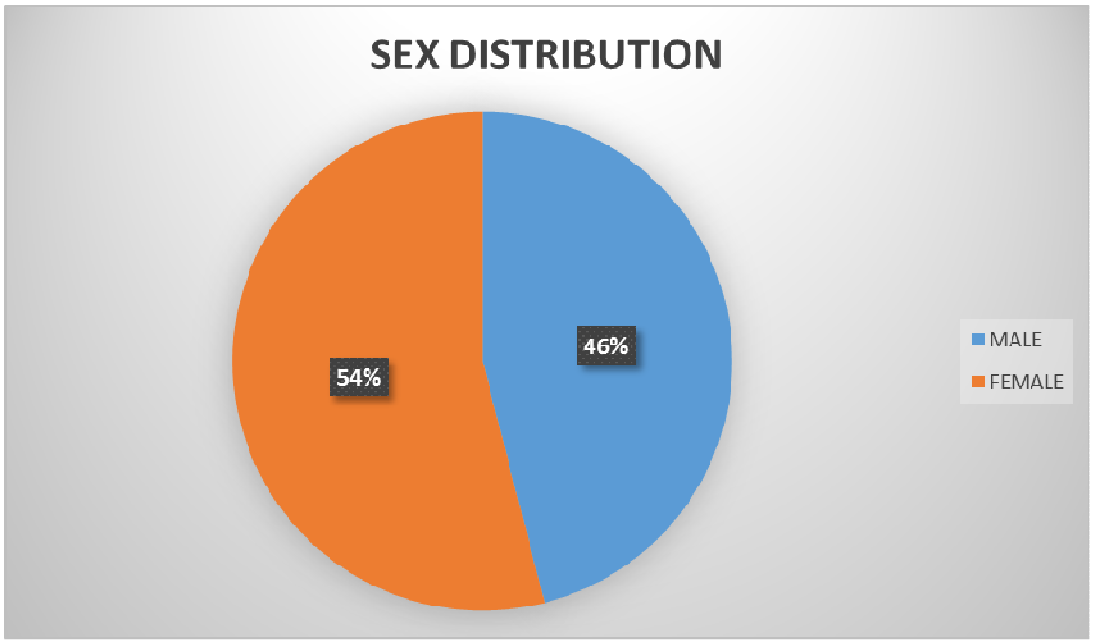
Patients are enquired using the self designed questionnaire focusing on mainly patient's awareness about ostomy,physical problems,self care

Skin complication,sleep,clothing ,diet ,family support ,social activities

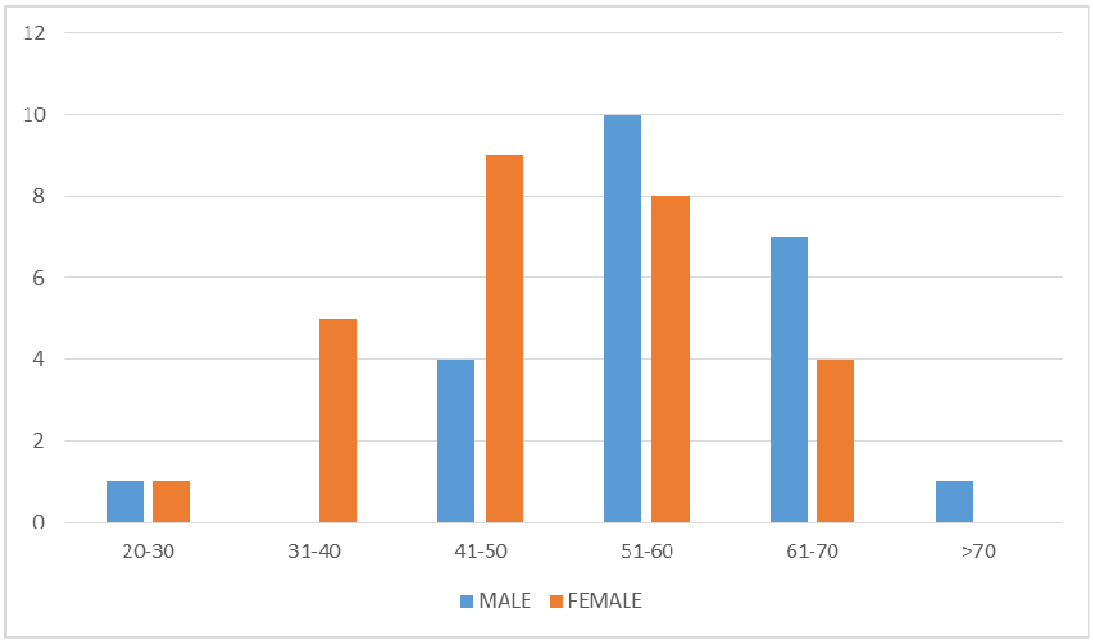
Religious activities ,sexual activities.

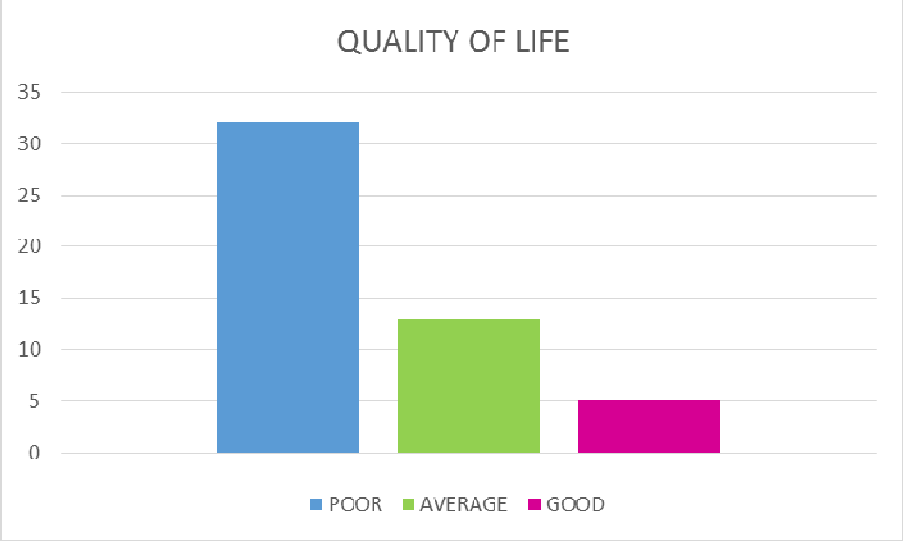
For answers which indicate improved quality of life are given 1 mark,for negative response o mark given for a total of 20 marks. Out of 20 marks if patients score 6 and below indicate poor quality of life ,7-12 indicate average quality of life,more than 13 indicates good quality of life .

RESULTS



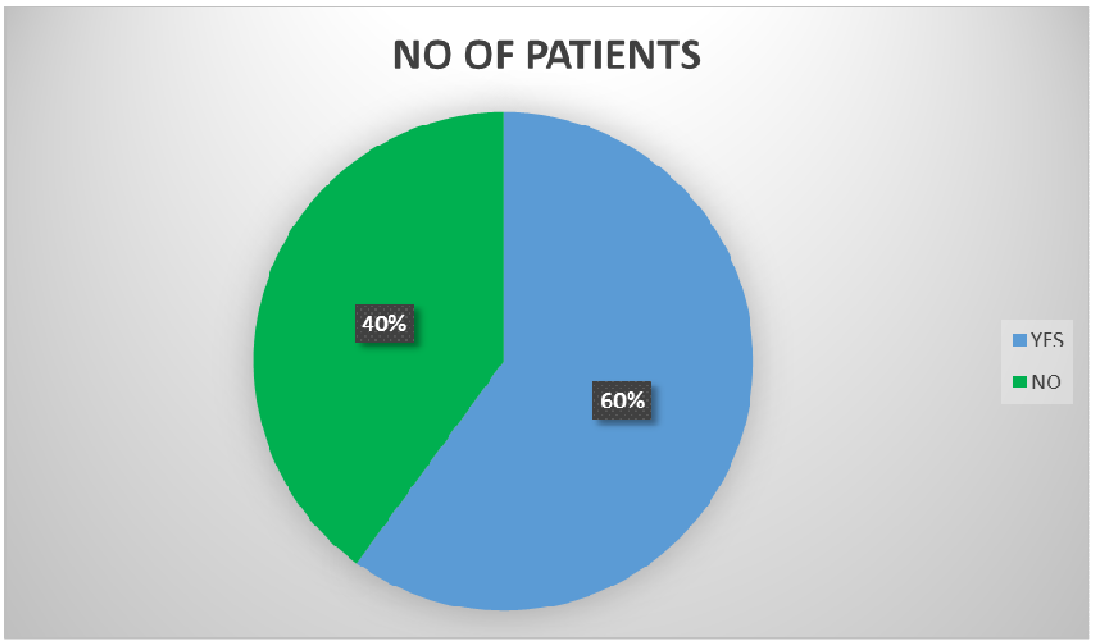
AGE DISTRIBUTION

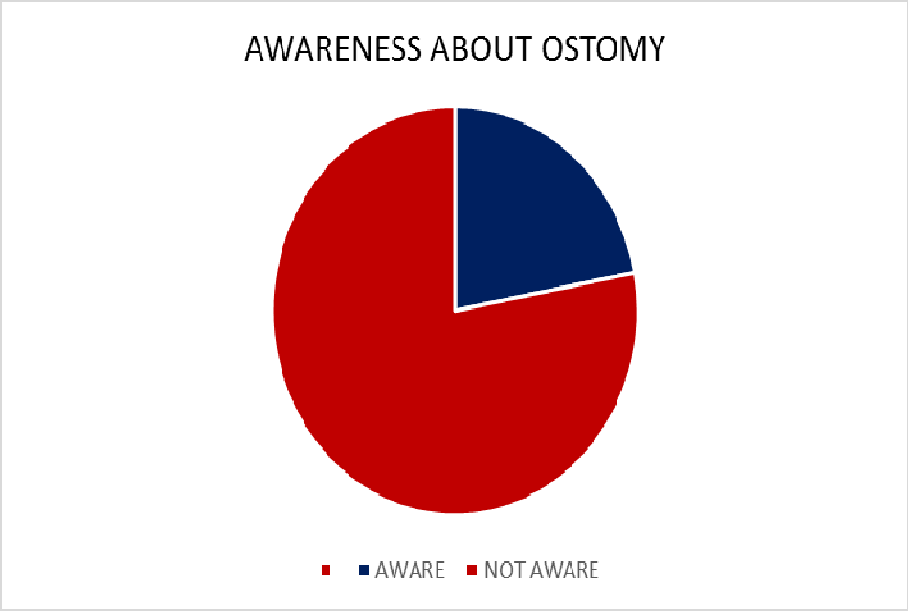




In our study most of patients are having poor quality of life , out of 50 patients 32 patients are having poor quality of life , 13 patients are having average quality of life , only 5 patients are having good quality of life .

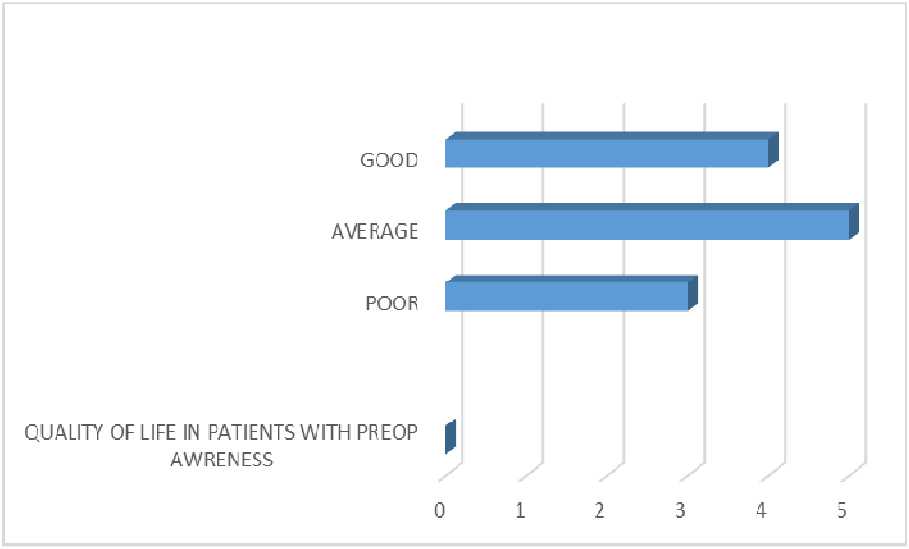
LEAKAGE OF BAG



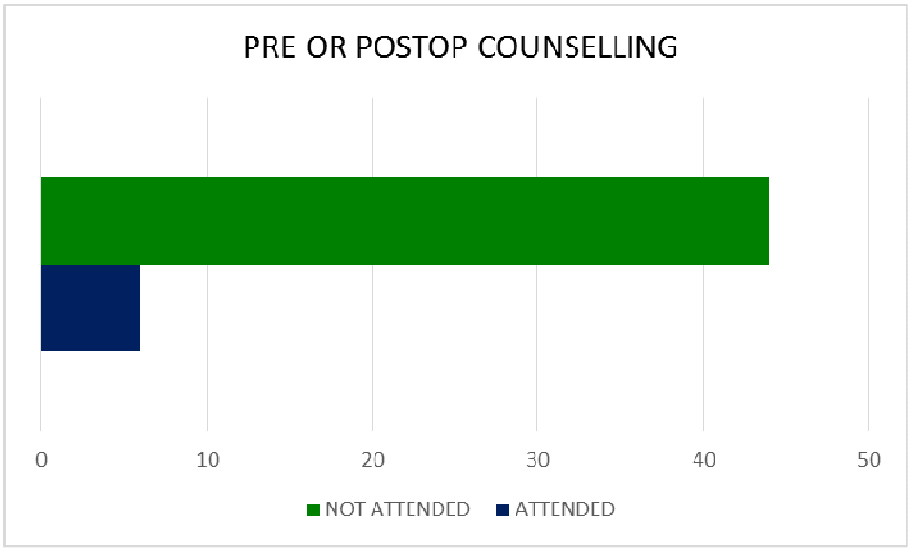


In our study most of the patients not aware of ostomy before surgery.out of 50 patients only 11 patients are aware about ostomy.

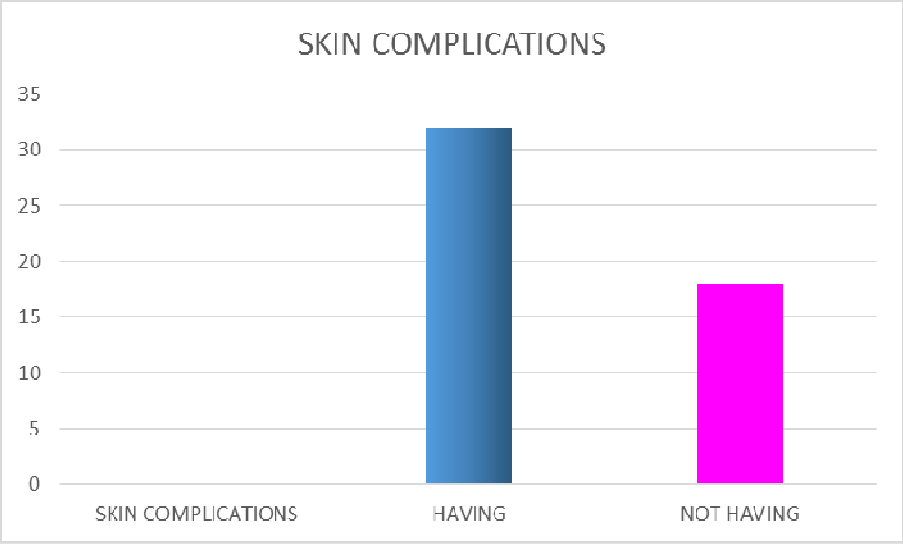
QUALITY OF LIFE IN PATIENTS WITH PREOP AWARENESS



In our study preoperative awareness is having significant impact on quality of life .As the patients having awareness have good quality of life than those donot have.

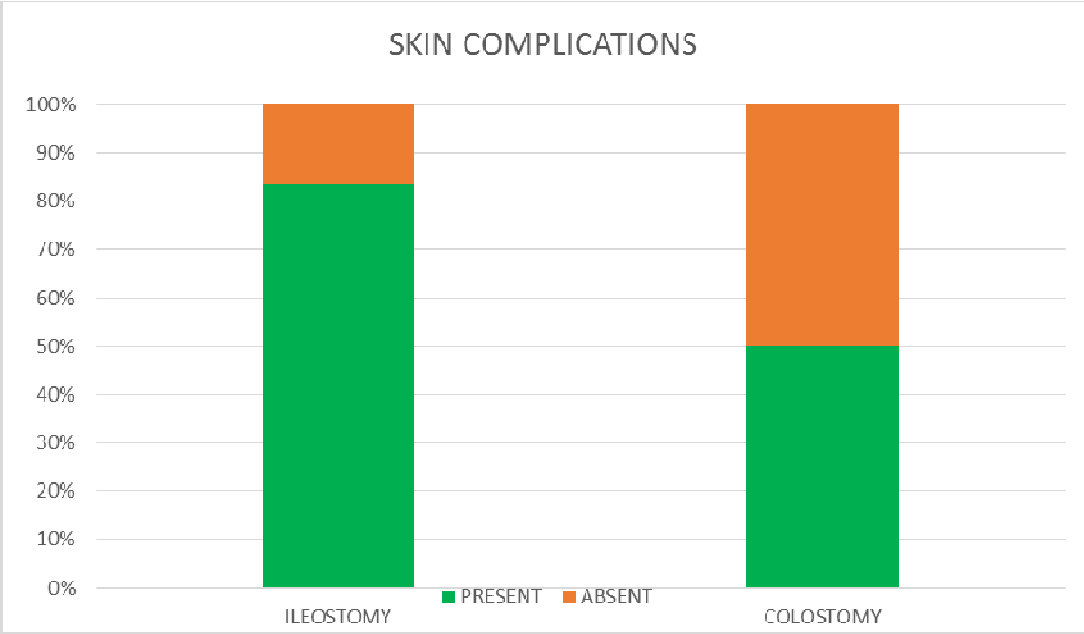


In our study most of the patients not attended the counselling about the ostomy care.



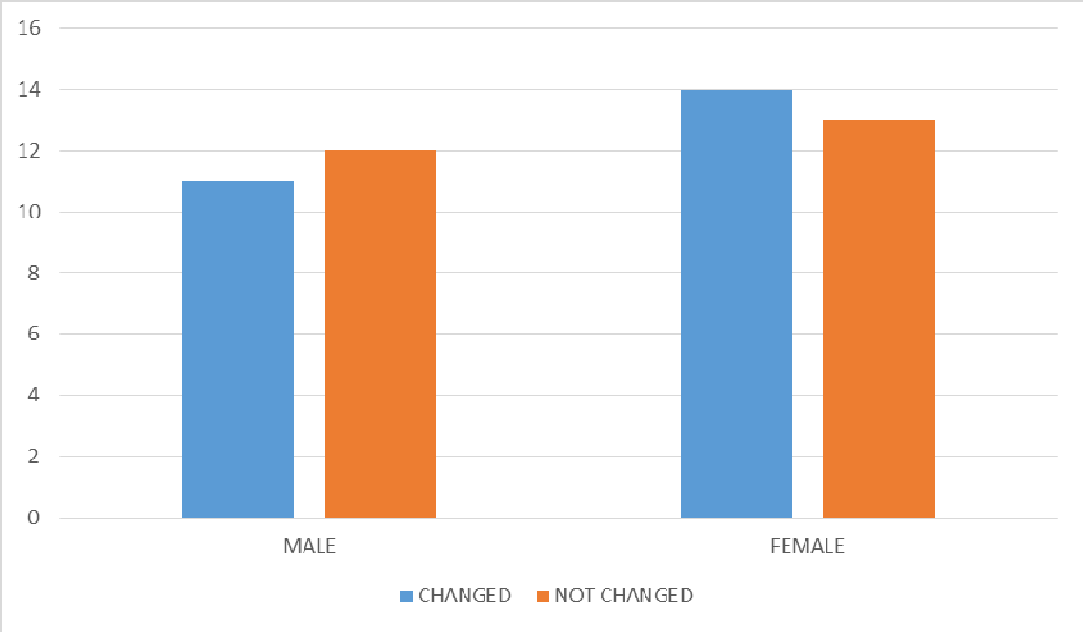
In our study study 32 patient are affected by skin complications ,18 patients do not have skin complications.

SKIN COMPLICATIONS

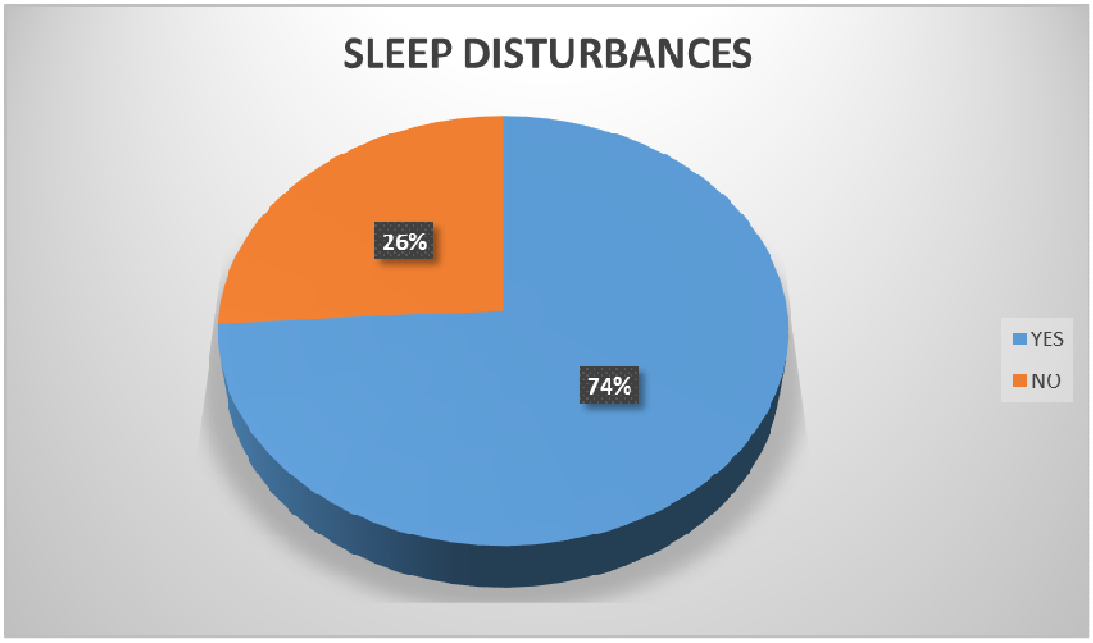


In this study skin complications are more in patients with ileostomy than among patients with colostomy.

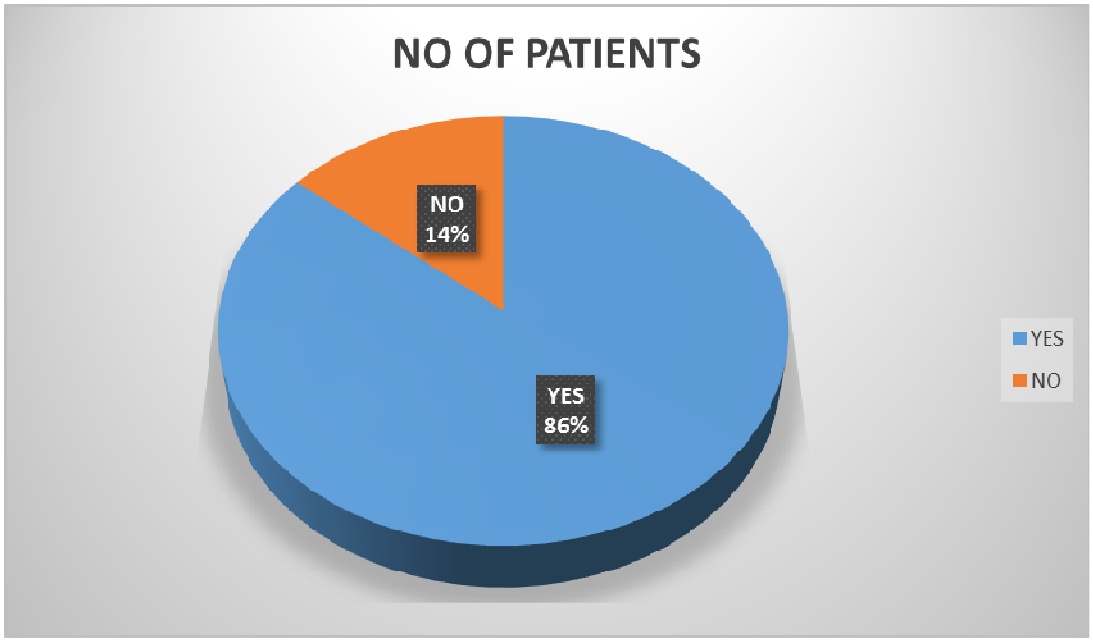
CLOTHING STYLE



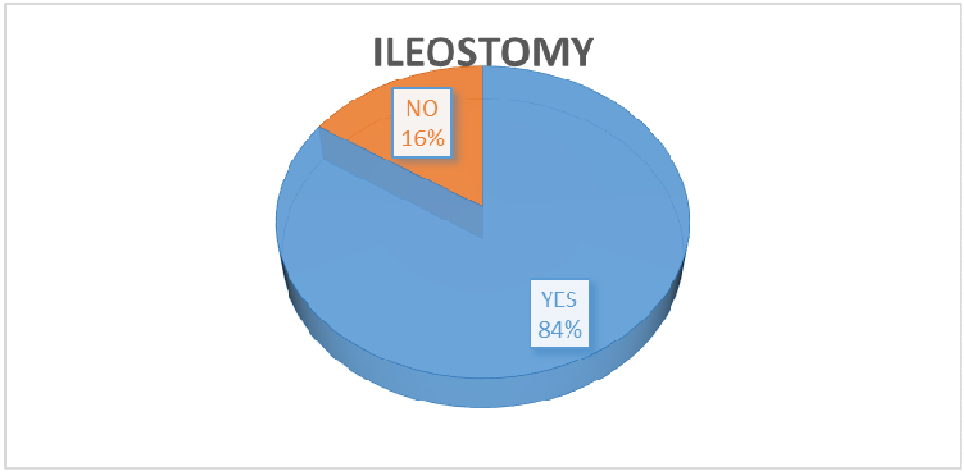
SLEEP DISTURBANCES

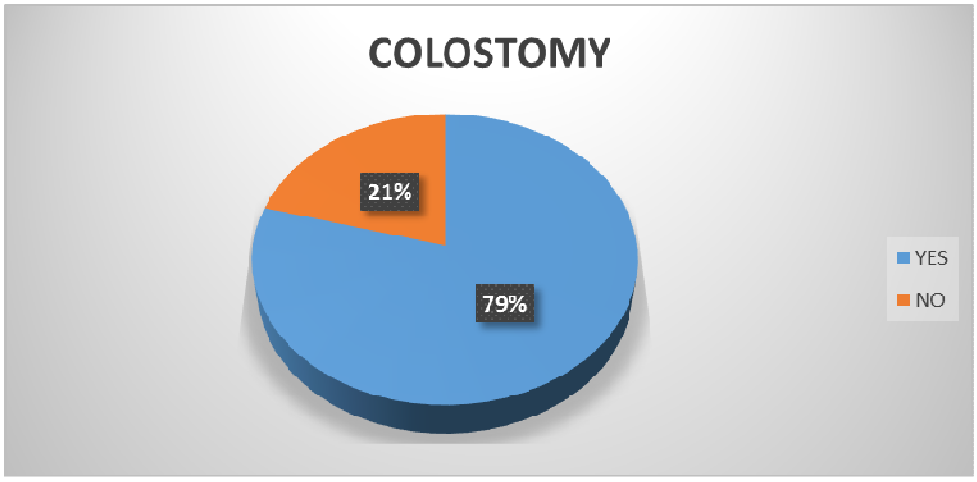


NUMBER OF PATIENTS WITH WEIGHT LOSS

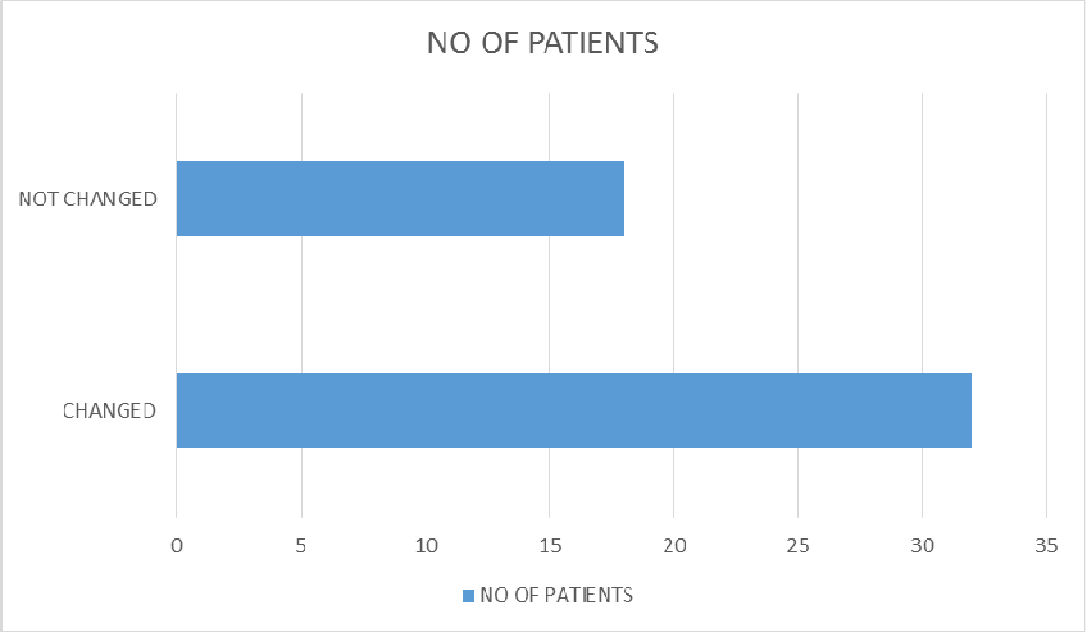


WEIGHT LOSS



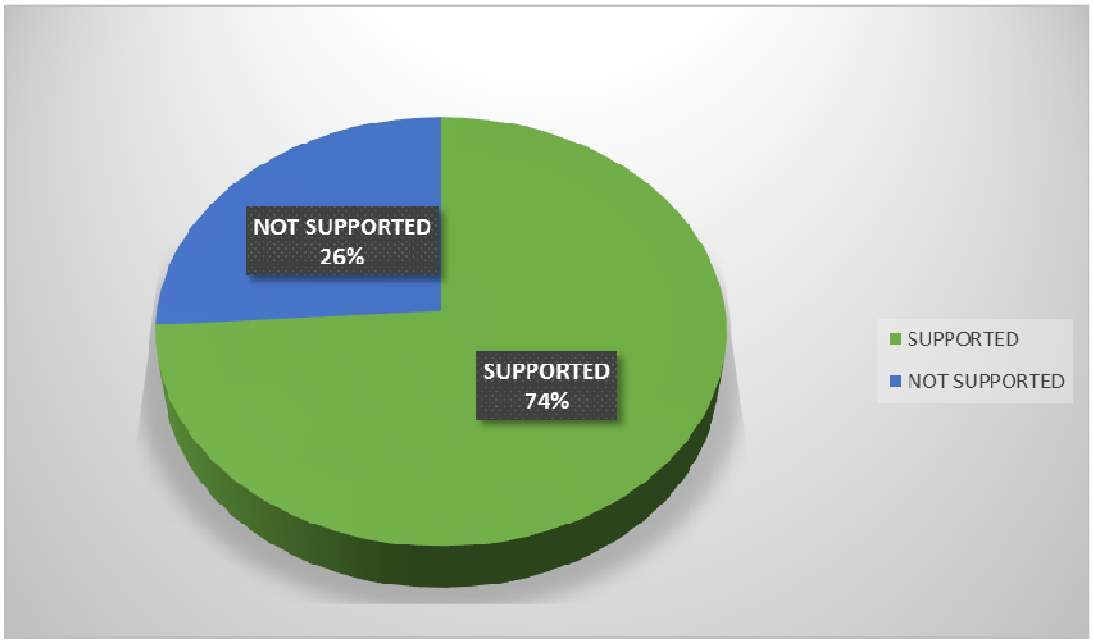


CHANGE OF EATING HABITS



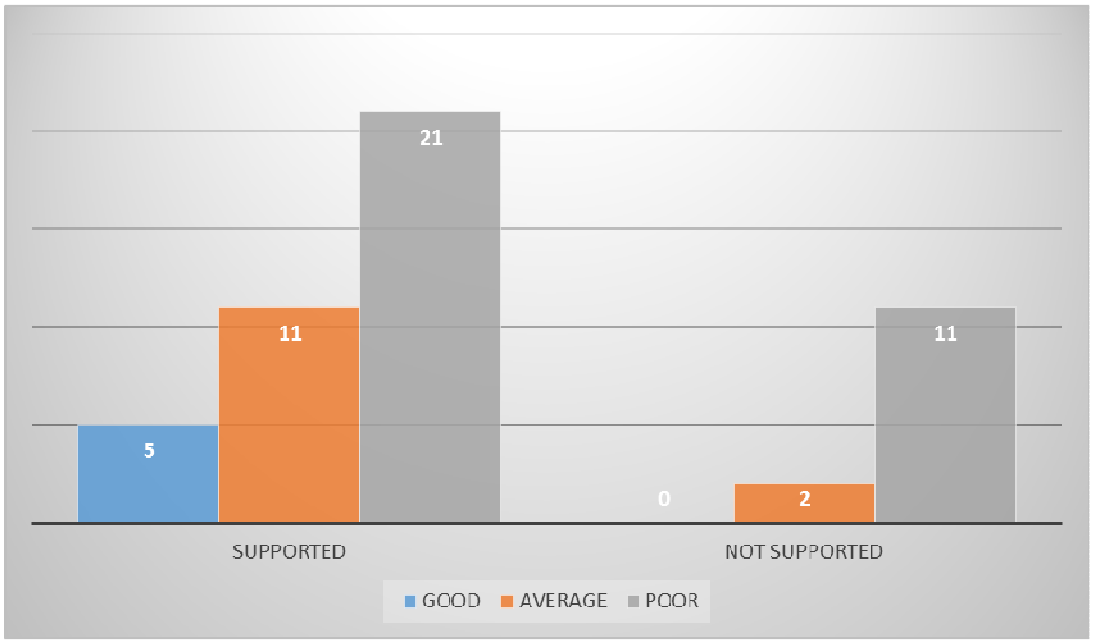
In our study significant number of patients have changed their eating habits about 32 patients out of 50.

FAMILY SUPPORT

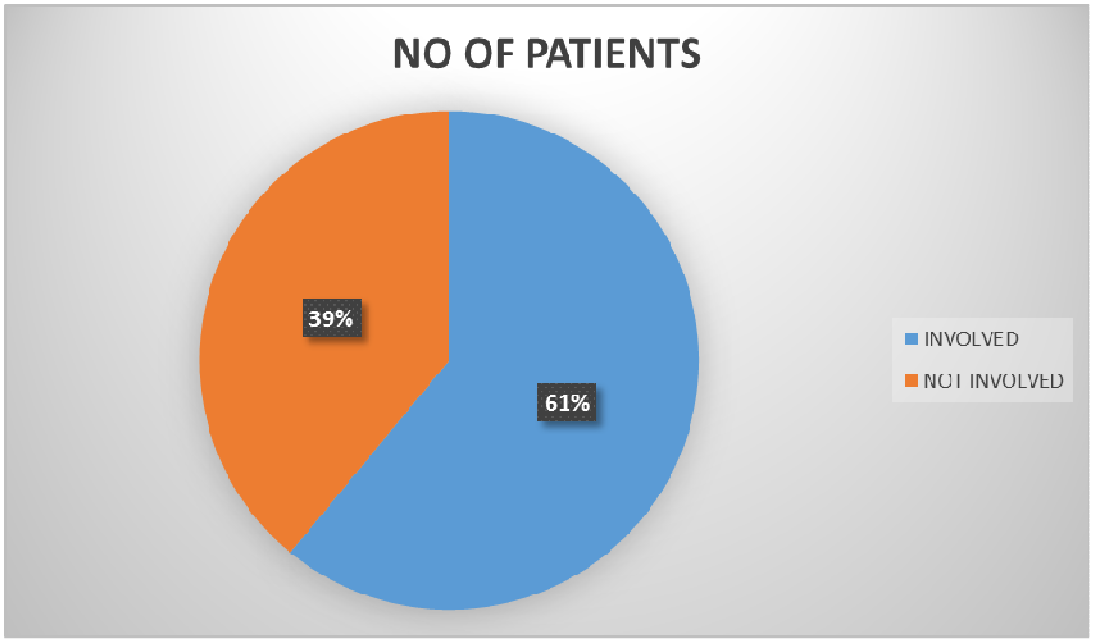


In our study about 74% of patients are supported by their family for stoma care.which may improve the quality of life .

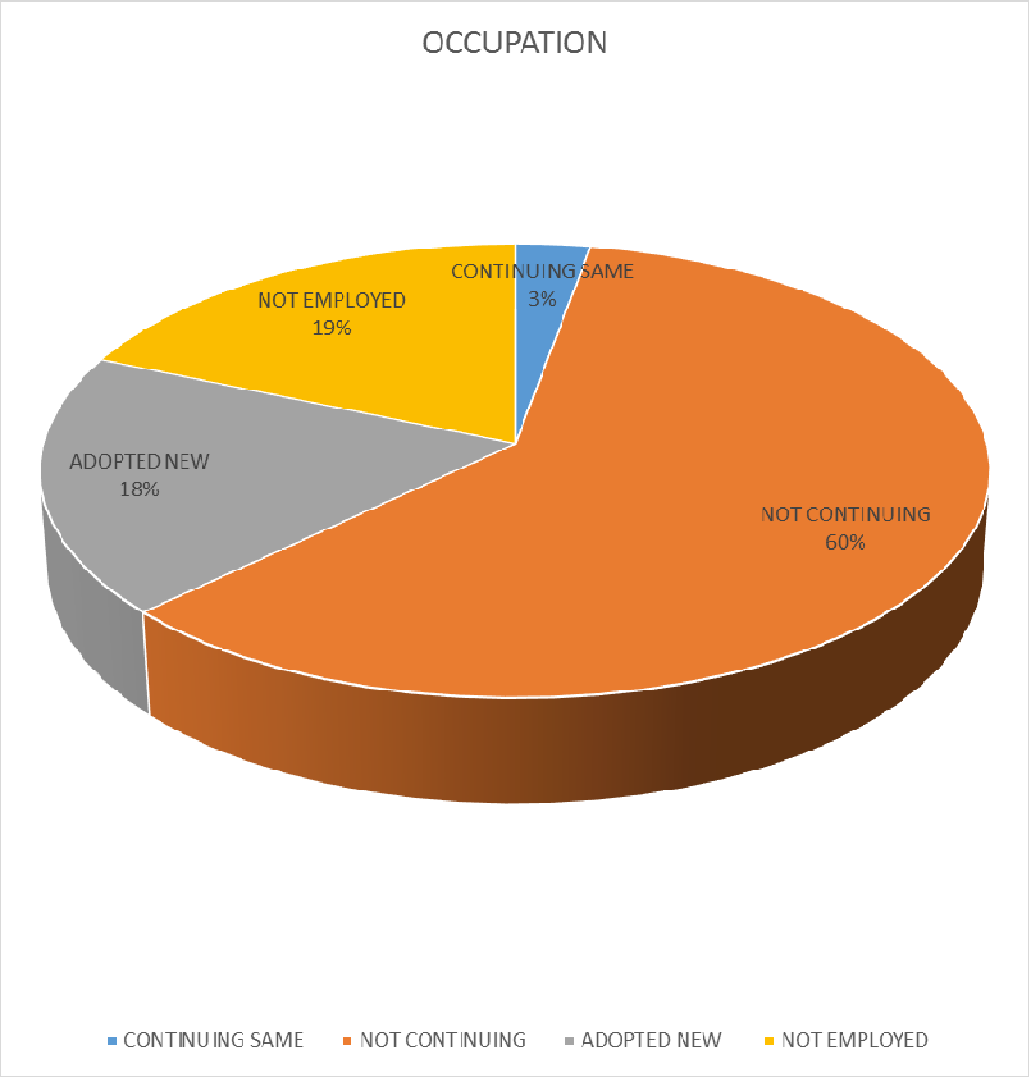
QUALITY OF LIFE AMONG THOSE SUPPORTED AND NOT SUPPORTED



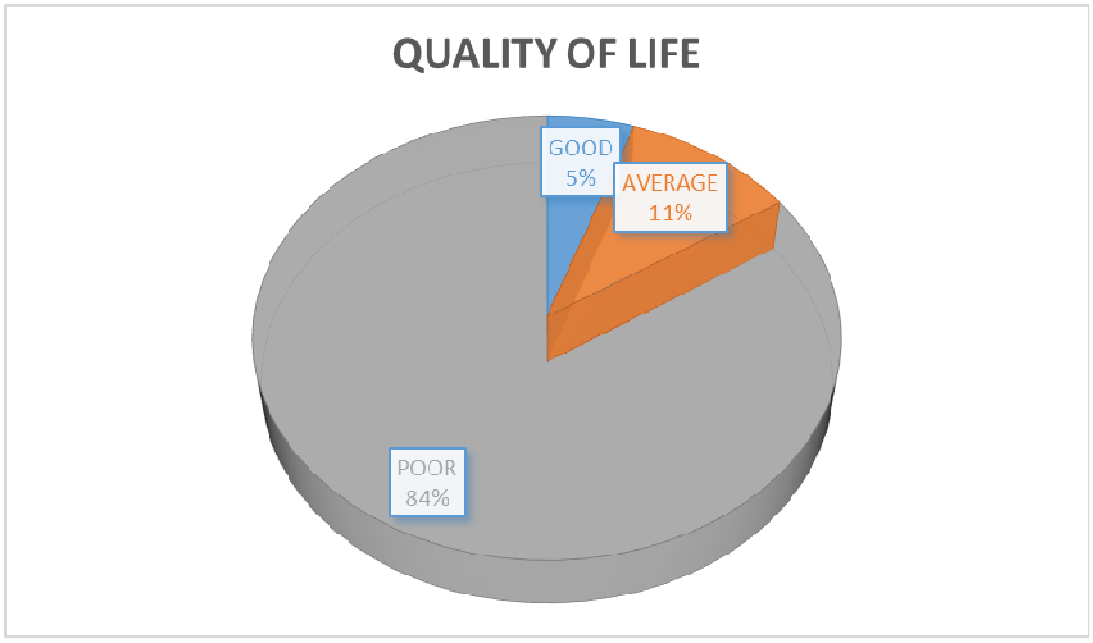
SOCIAL ACTIVITIES



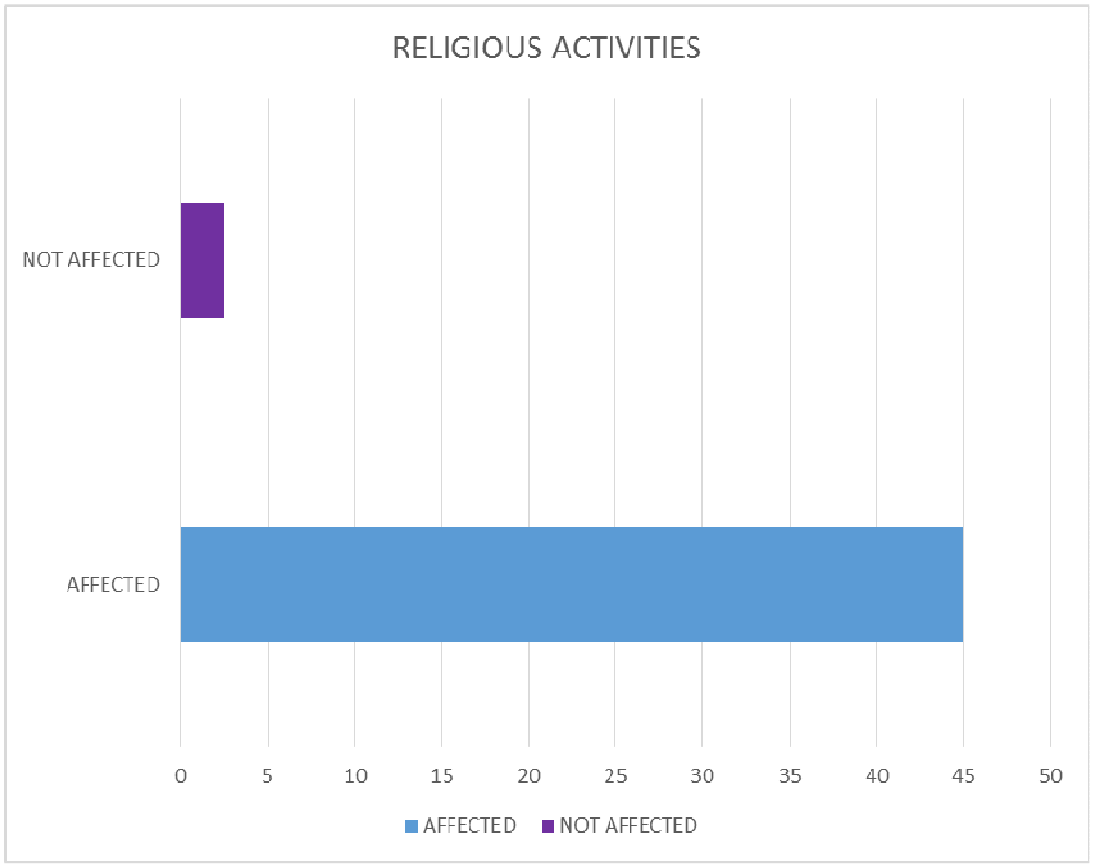
OCCUPATION

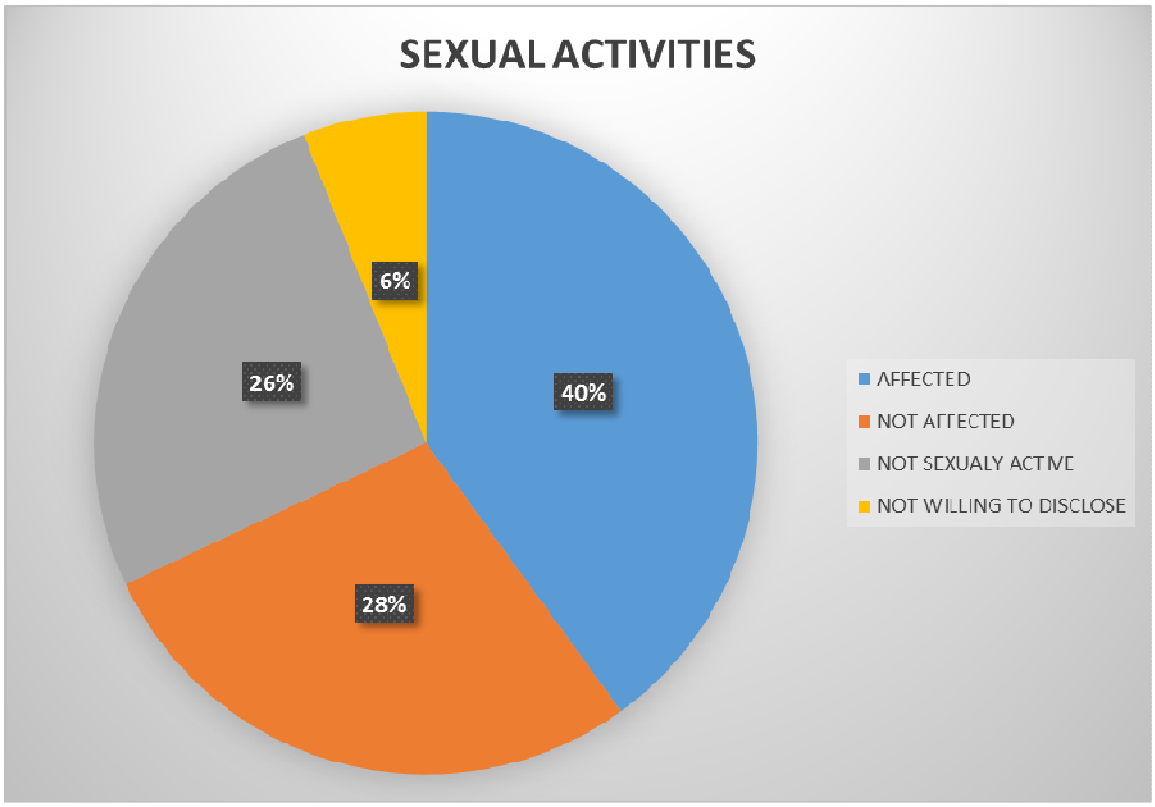

OCCUPATION
CONTINUING SAME
3%
NOT CONTINUING
60%
ADOPTED NEW
18%
NOT EMPLOYED
19%
CONTINUING SAME
NOT CONTINUING
ADOPTED NEW
NOT EMPLOYED

QUALITY OF LIFE AMONG WHO LOST THEIR JOB



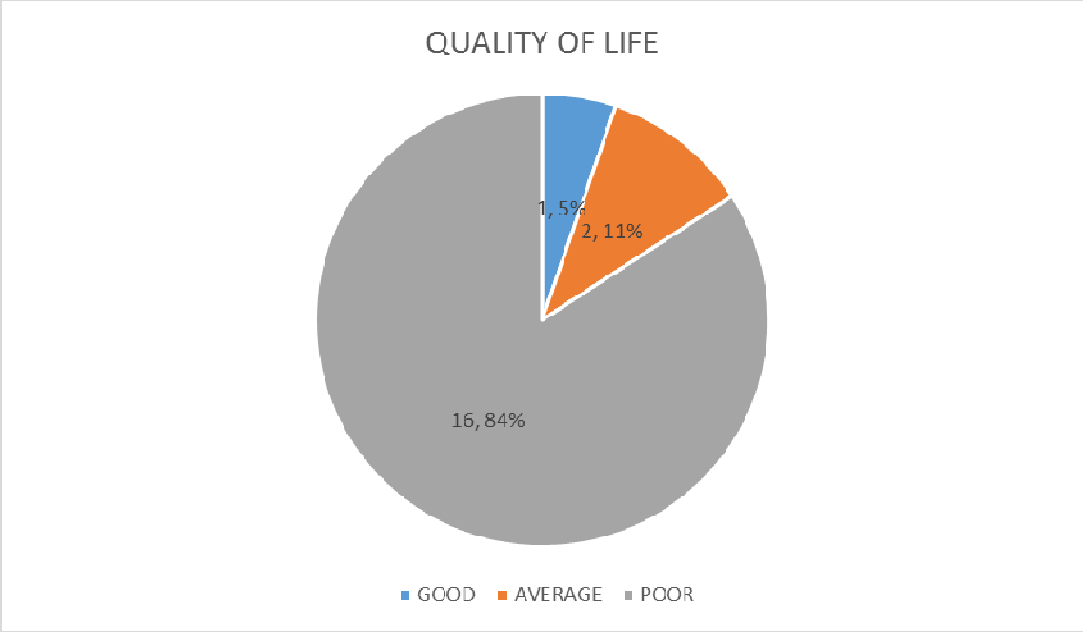
RELIGIOUS ACTIVITIES





This chart shows about 40% of patient's sexual life is affected , 28% of patients are not affected , 6% of patients are not willing to disclose ,28% of people are not sexually active before .

QUALITY OF LIFE IN PATIENTS WITH AFFECTED SEXUAL LIFE



DISCUSSION:

In our study we enquired about 50 patients regarding the problems they are facing in their day to day activities.

AWARENESS:

Pre operative awareness about ostomy can help the patients to cope up with impact of ostomy on their lives .In our study only 11 patients are aware of ostomy, 39 patients are not aware of ostomy. Among 50 patients only 6 patients have attended the counselling ,44 patients not attended the same.so awareness is less in our study population which has to be improved .

In our study patients with preoperative awareness have better quality of life than those do not have.

SKIN COMPLICATIONS:

In our study majority of patients(64%) having skin complications, in patients with ileostomy 83.3% patients having skin complications in contrast to only 16.6% patients do not have . In patients among who underwent colostomy equal amount of patients having skin

complications .so ileostomy with bilious content as a output is more prone to skin excoriation.

CLOTHING STYLE:

In our study female patients are found to have changed the clothing style .This is mostly depend on the site of ostomy. As the females are wearing saree in our country with exposed body parts to hide the ostomy site ,they have changed the clothing style.

SLEEP DISTURBANCES:

Ostomy patients may have sleep disturbances due to various causes like pain,fear of leakage ,depression .In our study 26% of patients are not having sleep disturbances , 74% of patients are having sleep disturbances.

LEAKAGE OF BAG:

This type of complication depends upon the site of the ostomy , method of fixing the bag. If ostomy site involves the fold of fat ,near the bony prominences chance of leakage is more .In our study 60% of the patients are having leakage of bag , 40% of patients do not have.

EATING HABBITS AND WEIGHT LOSS:

In case of ileostomy the output is frequent and liquid in nature , so patient themselves prefer to have solid foods rather than liquid diets . But in case of colostomy less frequent and solid in nature, patients will continue their normal diet ,so ostomy do not have much impact in these groups. In our study 64% of patients have changed,36% of patients not changed .

Regarding weight loss ileostomy patient are more prone to loose weight because of loss of electrolytes and nutrients in the ostomy out put .In our study 86% of patients have lost weight ,14% of patients not have lost the weight.

Among patients who underwent colostomy 46% of patients had weight loss 12% of them do not have weight loss.

FAMILY SUPPORT:

Family support in the form of stoma care ,psychological support can improve the quality of life .In our study 74% of patients are having family support which can help to improve the quality of life. 13% of patients do not have the family support .In our study among patients with family support 10% ,22%,42% of them having good ,average ,poor quality of life respectively.

SOCIAL ACTIVITIES:

Social life of patients like involving in recreation activities,going out with family members , participating in marriage ,festival function will be affected after ostomy .our study shows significant impairment social activities ,90% of patients not involved in social activities,only 10% of patients involved in the social activities after their ostomy.

OCCUPATION:

Mostly patients after their ostomy find difficulty in continuing the job ,which affect their economic status ,increase burden on other family members.so it will affect the inter personal relationship.In our study only 4% of patients are continuing the same job,64% of the patients are not continuing the same job,26% of patients have adopted new job,6% of patients not employed before so this study shows that ostomy has affected most patient's job. Quality of life among the patients who lost their job as follows poor(67.5%),average(25%)

Good(7.5%).

RELIGIOUS ACTIVITIES:

Studies show that ostomy affects one's religious activities much,because the society do not accept a person to enter in to the temple with fecal

matter in the bag,so patients themselves restrain from these type of activities.In our study 90% of patients do not participating in the religious activities,only 10% of patients continue to participate in the religious activities.

SEXUAL LIFE :

Because of unsighty appearance of ostomy patients and their partners find difficulty to involve in sexual activities .In our study 40% of patients are affected by ostomy , 28% of patients continue to enjoy the sexual life even after ostomy,6% of patients do not to disclose ,26% of patients not sexually active before.Quality of life among those with affected sexual life is as follows poor(80%),average (10%), good(5%) .

CONCLUSION:

In our study we enquired 50 patients with self designed questionnaire including various dimensions of life like awareness, physical ,body image, sleep ,clothing weight ,occupation,family and social support ,sexual life ,religious activities ect.

In our study overall quality of life is poor(64%) among most of the patients .26% of the patients are having the average quality of life ,10% of the patients are having good quality of life.

To improve the quality of life we have to take several measures like creating the awareness among the patients who are planned to be operated ,preoperatively as well as post operatively.To increase the family and social support awareness also created among family members and public regarding nature of the surgery and course of life after ostomy.

To prevent problems associated with stoma management ,patient and family members should be taught about the stoma care ,for this purpose many stoma care centres should be created. For preventing bag leakage stoma site should be marked with preoperatively in different positions.

To prevent psychological impairment patients should be counselled now and then, for those who lost their jobs should be rehabilitated with

another job,to improve the religious and sexual activities ,partners must be counselled regarding the surgery.

By taking measures to improve each dimensions of life we can improve the overall quality of life .

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KEY TO MASTER CHART:

Type of ostomy:

PC-permanent colostomy

TLC-transverse loop colostomy

PI-permanent ileostomy

TI-temporary ileostomy

Site of ostomy:

RIF –right iliac fossa

LIF-left iliac fossa

LEFT HYPO-left hypochondrium

Indication of surgery:

CA RECTUM-carcinoma of rectum

CA ASND COLON-carcinoma of ascending colon

CA DSND COLON-carcinoma of descending colon

ILEAL PERFO-ileal perforation

CA HEPATIC FLEX-carcinoma of hepatic flexure

CA ANAL CANAL-carcinoma of anal canal

PERF DESN COLON-peforation of descending colon.

Maximum marks in dimension:

Awareness -2

Self care-2

Physical problems-4

Sleep-1

Clothing -1

Diet -2

Family support-2

Social activities-1

Occupation-2

Travel -1

Religious -1

Sexual activities-1

Out of this 20 marks ,the marks obtained by the patient has been entered and quality of life assessed.

GOVT.STANLEY MEDICAL COLLEGE, CHENNAI- 600 001.

INFORMED CONSENT

DISSERTATION TOPIC: "*QUALITY OF LIFE ASSESSMENT IN PATIENTS WITH OSTOMY"*

PLACE OF STUDY: GOVT. STANLEY MEDICAL COLLEGE, CHENNAI,

NAME AND ADDRESS OF PATIENT:

I, _____ have been informed about the details of the study in my own language.

I have completely understood the details of the study.

I am aware of the possible risks and benefits, while taking part in the study.

I understand that I can withdraw from the study at any point of time and even then, I will continue to receive the medical treatment as usual.

I understand that I will not get any payment for taking part in this study.

I will not object if the results of this study are getting published in any medical journal, provided my personal identity is not revealed.

I know what I am supposed to do by taking part in this study and I assure that I would extend my full co-operation for this study.

Name and Address of the Volunteer:

Signature/Thumb impression of the Volunteer

Date:

Witnesses:

(Signature, Name & Address) Name and signature of investigator:

PROFORMA

QUALITY OF LIFE ASSESSMENT IN PATIENTS WITH OSTOMY

NAME:

AGE:

SEX:

MARRITAL STATUS:

SOCIO-ECONOMIC STATUS:

ADDRESS:

IP NO:

DATE OF ADMISSION:

DATE OF DISCHARGE:

DURATION SINCE SURGERY:

TYPE OF OSTOMY :

SITE OF OSTOMY:

INDICATION FOR OSTOMY:

1. *Were you aware about ostomy before surgery?* ***YES(1) / NO(0)***

*2.Have you attented any counselling before or after surgery?**YES(1)** /* ***NO(1)***

3.Do you care for your ostomy yourself? ***YES(1) / NO(0)***

*4.Do you have any difficulty in changing and fitting the bags?**YES(0)** /* ***NO(1)***

5.Type of appliances you are using ? **Temporary** / **permenant**

6.Frequency of change of bags _____

7.Are you experiencing frequent leakage from the bags? ***YES(0) / NO****(1)*

8.What is the consistency of the effluent? _____

9.*having offensiveIs the effluent odour?* ***YES(0) / NO***(1)

*10.Are you experiencing the frequent gas emission from the ostomy**?*
YES(0) / NO(1)

11.Do you have any skin excoriation / itching around the ostomy site? ***YES(0) /NO(1)***

12.Have you experienced sleepless night? ***YES(1)*** */* ***NO****(0)*

If yes specify the reason

a)pain

b)Fear of leakage

c)Frequent filling of bag due to gas

d)Depression

e)others_____

13.Average duration of sleep?_____

CLOTHING:

14.Have you changed the style of clothing you wear because of your ostomy? ***YES(0)*** */* ***NO(1)***

DIETARY HABITS:

*15. Have you lost the weight after surgery****?*** ***YES(0) / NO(1)***

16.Have you changed the eating habits after surgery? ***YES (0)/ NO(1)***

17. Which type of food do you mostly prefer to have ?_____

FAMILY AND SOCIAL RELATIONSHIP:

18.*Do you feel any difference in behaviour of your family members towards you after surgery**?*** ***YES(0) / NO(1)***

19.Are the family members helping for your ostomy care?

YES(1) / NO(0)

20.Are you going out with your family members as before surgery?

YES(1) / NO(0)

OCCUPATION:

21.Were you employed before surgery? **YES / NO**

22.*Are you continuing the same job after surgery?* ***YES(1) / NO****(0)*

23.Have you adopted any new job after surgery? ***YES(1) / NO(0)***

24.Average amount you are spending for your ostomy per month?

YES /NO

TRVELLING & HOSPITAL VISIT:

25.Mode of transport you are using after ostomy?_____

26.*Have travelled any long distance after ostomy?* ***YES(1) /NO(0)***

If no specify the reason_____

27.How frequent you are visiting your doctor after surgery?_____

RELIGIOUS ACTIVITIES:

28.Are you going to temple and participating in religious activities after ostomy? ***YES(1) / NO(0)***

SEXUAL ACTIVITIES:

29.Were you sexually active before surgery? **YES** / **NO**

30. Have you resumed sexual activities since having your ostomy? ***YES(1)/NO(0)***